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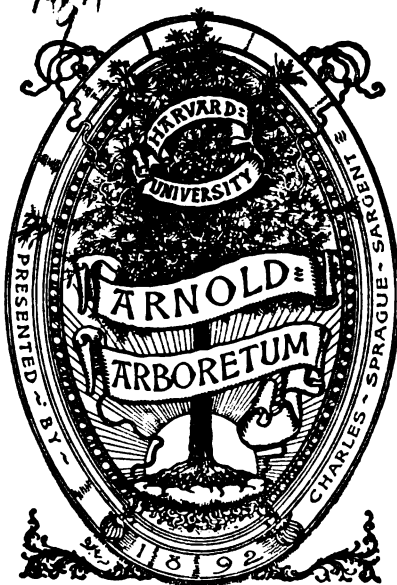
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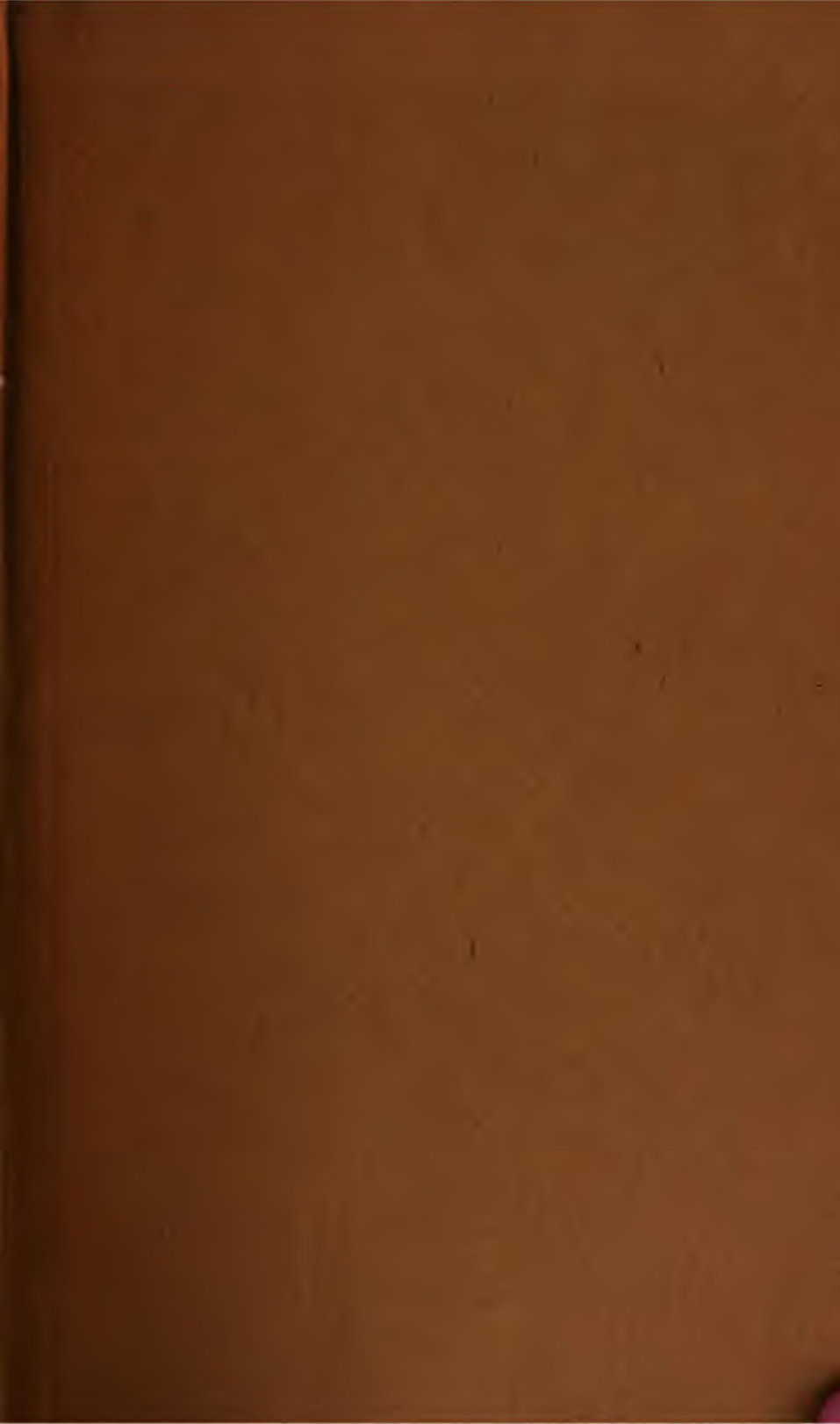
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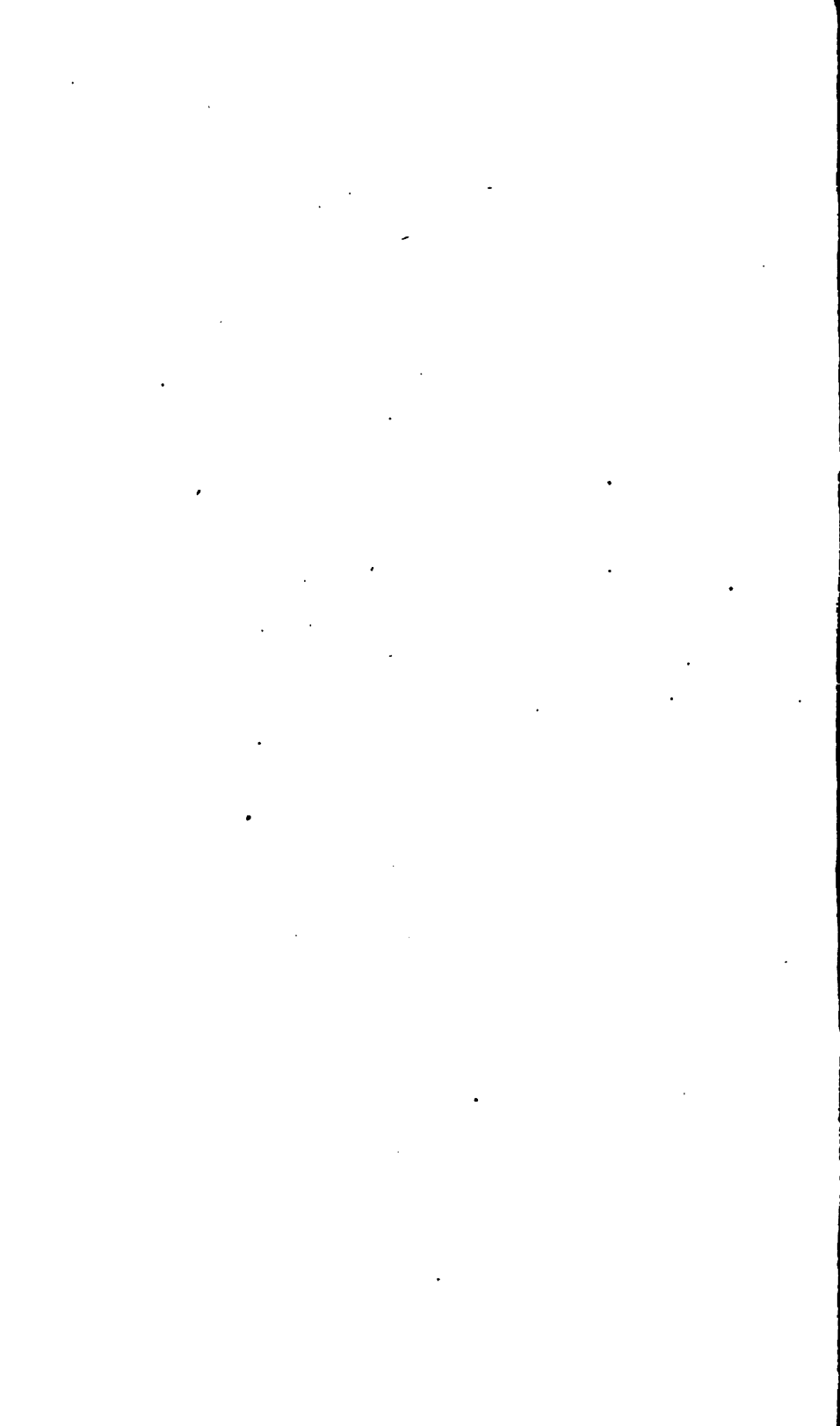






1877-2

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THE MAGAZINE
OF
HORTICULTURE,
BOTANY,

AND ALL USEFUL DISCOVERIES AND IMPROVEMENTS IN
RURAL AFFAIRS.

“ Je voudrais échauffer tout l'univers de mon gout pour les jardins. Il me semble qu'il est impossible qu'un méchant puisse l'avoir. Il n'est point de vertus que je ne suppose à celui que aime à parler et à faire des jardins. Pères de famille, inspirez la jardinomanie à vos enfans.”—*Prince De Ligne*.

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(VOL. VIII., NEW SERIES.)

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Boston, Nov. 26, 1852.

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THE MAGAZINE OF HORTICULTURE.

JANUARY, 1852.

ORIGINAL COMMUNICATIONS.

ART. I. *A Retrospective View of the Progress of Horticulture in the United States, during the year 1851.* By the EDITOR.

No two seasons could be much more the reverse of each other than those of 1850 and 1851. While the peculiarities of the former were a mild winter, a cool and wet summer, and a fine autumn; those of the last year were a cold winter, a dry summer, and a cold and unpleasant autumn. Viewed in regard to the effect of the season on crops, &c. as a whole, the year just passed has been highly favorable, and in some respects more satisfactory to the horticulturist than either of the two which preceded it. If we except the pear, which now for the third year has not produced a third of a crop, other fruits seem to have been full up to the average. Peaches were unusually abundant and of fair quality, but not of large size. Apples tolerably abundant, and of other fruits a good supply. Whether another year is to be added to the cycle so unfavorable to the pear, remains to be seen. We hope, however, that the coming season will be the first of a series of favorable ones for this delicious fruit, at least to continue as long as that which has been so disastrous to the crop.

January, 1851, with the exception of the two first and two last days, was not a severe or unpleasant month. It commenced with the temperature at 2° below zero on the 2d, and 4° below zero on the 5th, but this was succeeded by a

warm rain, and followed mostly by fine weather up to the 30th, when it cleared off after a warm south rain, the temperature falling to zero on the 30th, and to 6° below on the 31st.

But February more than made up for the preceding month. The ground was nearly bare of snow, and being wet from the rain of the 29th January it froze up, very hard. The 1st, indicated 5° below zero; the 7th, 8° below; and the 9th, 2° below. The 10th was rainy, and the remainder of the month was alternately rainy and cool or fine, with scarcely any snow.

March continued cool and backward, and was accompanied by more rains and snows, at least in number, than either of the preceding months. No less than fourteen of the thirty-one days were cloudy, with rain or snow. On the 14th, the thermometer was at 18°, and the weather fine; the next fine day was on the 22d; the light snows which had fallen then began to thaw rapidly, and on the 27th all traces of them were gone, with but an inch or two of frost. Up to the close of the month it continued favorable.

April commenced with fine weather, with but one rainy day up to the 15th. A northeast storm of great severity then set in, and continued up to the 22d. After which it was fine again, with cool northerly and easterly winds to the close of the month.

May was, on the whole, a favorable month. No frosts of sufficient severity to do any damage to vegetation were experienced in the vicinity of Boston; the earlier part was cool with showers, and the first very warm day was on the 19th, when the thermometer indicated 90°; after this it was cool, to the close of the month, with the average of fair and cloudy weather.

June opened cool with fair weather the first week; on the 9th, a great quantity of rain fell; this was followed by continued cool weather up to the 18th, when it set in warm and pleasant. The 30th was the warmest day of the summer, the thermometer reaching 99° in the shade. With the ex-

ception of light showers on the 23d, no rain fell after the 9th of the month.

July commenced with a warm day and genial showers, but not with sufficient moisture to do any material good. The remainder of the month was fine, with occasional light showers up to the 28th, when the sun was eclipsed. After this it was remarkably cool for the season. August, with the exception of six or eight days, continued cool throughout, with sunny weather, and only three or four light showers, quite insufficient to aid the suffering vegetation. September set in cool with a raw east wind; but warm weather followed, and on the 7th, the mercury reaching 93°. The 9th was again cold with east wind. The 10th to the 13th was warmer. The morning of the 14th was cool, and on the 15th and 16th, the thermometer was just at the freezing point (32°), so severe in low places as to injure tender vegetation. On the 21st, the first heavy rain fell since the early part of June; cool and cloudy weather succeeded, and on the 25th a heavy frost, with the thermometer at 26°, killed all tender plants. Cloudy and rainy weather closed the month.

The earlier part of October was the only pleasant weather of the autumn. Up to the 16th it was fine and warm. The 17th was cold with frost, the thermometer 24°, followed by a cold easterly rain on the 19th; the succeeding week was pleasant, with another cold easterly rain on the 26th, and on the morning of the 27th the ground was covered with two inches of snow, unusual at that early season: still another heavy rain on the 30th, which saturated the ground. November, compared with the same month in 1850, was extremely cool. The temperature was only 28° on the 5th; 18° on the 6th; and 20° on the 7th, and as low as 12° on the 12th. A cold easterly rain fell on the 15th, and another on the 21st, with snow on the 25th. On the 27th the mercury again fell to 18°. The whole month was chilly, and uncomfortable. December set in with a temperature of 16°; 10° on the 6th; with two inches of snow on the 7th, and the thermometer again at 10° on the 11th, with a greater depression on the 13th to 6°. While we now write (the 15th) the

snow is three inches deep. So far the month has been remarkable for sudden changes as well as for its low temperature, there having been only one day when it thawed in the shade.

HORTICULTURE.

No features in the progress of Horticulture are more apparent, than the manifest desire to cultivate the newer and better varieties of fruits, to the exclusion of the old and inferior; and the rapid extension of orchards in every part of the country. There are many individuals who delight to look on the dark side of every picture, and who always fancy they see much over which to lament. Of this class are those who are fearful the culture of fruit and fruit trees will be overdone; and who look forward to a glutted market of each. We are aware that almost every cultivator has become a nurseryman, or dealer in trees; but in this we see nothing to induce us to believe that it will result in anything but a benefit to the regular dealers. Twenty-five years ago the same fear was entertained; but the anticipated result has not yet come, and we think twenty-five years hence we shall be just as near it as we are now. Any person who takes a general survey of our country, its vast extent, and the quantity of unoccupied land, must see that years must elapse before it can be planted up abundantly enough to keep pace with the demand. Our railroads are every year,—almost every month,—penetrating the interior, and opening new regions of country which are to be supplied from the older places; the increasing taste for trees in and around our larger cities augments the demand; and with the increased consumption to which an acquaintance with our choice fruits invariably leads, there is little danger of an over-supply of trees, or an unconsumed crop of fruit.

A review of our catalogues of fruits will show at a glance the progress made in the production of our native kinds. Scarcely twenty years have elapsed, since, in the pear alone, we could number only five or six varieties. The same might be said of other fruits, with the exception of grapes. Our principal reliance has been upon a foreign supply. Happily

our experience thus far, and in so short a period, has shown what our climate and soil are capable, under the guidance of art, of doing, and we greatly mistake the energies of our countrymen, if they do not ere long, to a great extent, as indeed they already have with the apple, render themselves almost independent of foreign accessions to our fruits. Not that we undervalue a choice variety come from where it may, or would neglect it, because of its exotic origin; but because we believe in the superior characteristics of those of home production, inured as they are to our climate. We see this amply borne out in the strawberry; for while the Keen's Seedling, the British Queen, and other of the leading kinds of England,—there, all that could be desired,—when growing in our climate cannot withstand our summer heat, or our winter cold; our native seedlings are affected by neither, but flourish alike under the icy fetters of a Canada winter, or the scorching heat of a southern summer. Such being the fact with regard to this delicious fruit, may we not reasonably suppose a similar effect, though perhaps less in the first generation, will be experienced with our ligneous fruit trees. It is not exactly a question of acclimatization; for we believe with some English writers, that, without cross impregnation with some hardy kinds, no very perceptible difference can be made in the hardiness of tender plants through the seed; but with those already hardy, or nearly so, we doubt not the progeny may be made hardier, while the same kinds in a mild climate, through successive generations, may be made more tender and less capable of resisting the severity of our climate when brought into it.

The question regarding the use and benefit to be derived from what have been termed special manures is daily assuming more importance. Like other theories which have had their day, and sunk into oblivion, this, to a certain extent, we think, is likely to share no better fate. We are not opposed to "all theories," as we lately heard a gentleman of well known scientific attainments state, in discussing a question of ventilation, upon which there are so many opinions, but we are opposed to the *general adoption* of theories before they have

been put to the test of practice. In the closing number of our last volume we discussed the subject of the mineral manure theory, and deem it unnecessary now to enter at much length upon the subject, though we shall do so hereafter ; but as our article was the first we have seen, in our periodical journals, opposing the theory, we deem it not inappropriate to allude to an article which we have since read in the *Cultivator*, from Prof. Norton, in which he adopts all or a greater part of our views, and supports them even with a better argument than we used, viz., by a detail of the accurate experiments of some celebrated French chemists. Prof. Norton states also that the experiments of Mr. Lawes "seem to him perfectly conclusive in this matter, so far as wheat is concerned ; they prove that ammoniacal manures increase its growth far more than mineral manures, where both are already present in moderate supply, and that the addition of any amount of the latter will *do little or no good*, unless the former be present." Without going back to see how far the *present views* of the Professor agree with those expressed in his *Elements of Scientific Agriculture*, we would inquire, could we have better support than this? Notwithstanding our friend Prof. Mapes can raise *seventy-five bushels of shelled corn*, from land which "refused corn the previous year," by the application of *one dollar and thirty-one cents' worth of special manure*, and notwithstanding the declaration of our Hudson contemporary, who was "born in a garden," that our disbelief in the efficacy of special manures reminded him of his early and laborious study of the classics, when he read of the "Solelm Sphinx that once told how high the tide rose in Egypt, but has long ago been left high and dry by the progress of the age," we are not yet ready to adopt the views of these writers, preferring rather that their readers, who believe them, should experiment upon their theories to their hearts' content, as they have with *gas tar, salt, copperas*, and similar nostrums, until they have destroyed all their trees, when they will be more likely to listen to the dictates of reason and common sense. But we have digressed

from the extract relating to the experiments of the French chemists. Here it is:—

“These views are still farther sustained by a very able paper in one of the late French Scientific Journals. The experiments in this case were made upon oats, and were between forty and fifty in number. They commenced by growing them out in sand, first deprived of everything soluble by acid, and then burned to drive off all vegetable matter. In this, as might have been expected, no perfect plants were produced. One mineral substance after another was added, until at last it was found that with a certain SEVEN [seven is a mystical number,] of them, the plant flourished better than with any others. It, however, was still far from luxuriant, or from yielding a fair amount of grain; it was not until some manures containing nitrogen had also been added, that entirely healthy, fertile, and strong plants were obtained. These experiments appear to have been very carefully conducted, and furnish important confirmation to those of Messrs. Lawes and Gilbert.” In conclusion, Professor Norton admits “that in spite of THEORETICAL views to the contrary, he (the farmer) will find that in PRACTICE he can best afford to pay a high price for those manures that are especially rich in ammonia!” Further comment here is unnecessary.

The vineyard culture of the grape is attracting yearly more attention in the Western States, more particularly in Ohio; and with the better knowledge of which cultivators have become possessed by continued practice, as well as by the aid of experienced Frenchmen who have been obtained to carry on the process of wine-making, they are now enabled to supply a drinkable article, and one which sells readily in the market. We look with much satisfaction upon the progress of this department of agricultural produce, and doubt not the time is near when the West will be able, by the growth of improved varieties of the grape, and by selecting the most suitable localities, to manufacture a pleasant wine of excellent quality, which will, to a great extent, take the place of the miserable spirituous liquors which are now consumed to so great an extent throughout the country. As there is little

expectation that out-door grape culture can be pursued successfully in the Eastern States, we have forborne occupying room with the details necessary to a thorough understanding of this branch of Horticulture.

Turning on the other hand to the growth of the foreign grape, we are glad to report so much progress. A few years since, beyond the neighborhood of Boston, but few houses for the culture of the grape under glass were to be found. Now, however, they are almost a necessary appendage to every garden of any extent. It having been satisfactorily shown that the growth of the choice table grapes, to any degree of excellence, is next to impossible in the open air, structures, either with or without heat, are springing up in all parts of the country, even as far west as Kentucky. We feel no little pride in this, for a glance at the *seventeen* volumes of our Magazine will show how we have labored to produce this result. The collected articles upon the culture of the grape by the most successful cultivators in the country, in those volumes, would fill at least two of them, amounting to more than a thousand pages.

We need not recapitulate the many excellent papers under this head which have appeared in our last volume, and which may be seen at a single glance at the table of contents.

The Massachusetts Horticultural Society, with the liberal means afforded them by the munificent donation of Mr. Lyman, have not only offered, and already given, handsome prizes for the best cultivated fruit *gardens*, to be inspected from time to time by an appropriate committee, but they now propose to offer additional prizes for the finest collections of the pear, to be shown at their annual exhibition. We do not doubt it will have a good effect, and that the public will be greatly benefited. It will induce zealous cultivators to add all the varieties of reputed merit to their collections, and after having fruited them the specimens will be shown and examined,—their qualities tested, and the results spread before the public. It is certainly a source of the highest gratification to every pomologist to see how much good can be accomplished through the instrumentality of such a fund as that of

Mr. Lyman's; and while the members must feel pleased that they are enabled to offer such liberal prizes, the friends of Mr. Lyman must feel highly honored in knowing that through his means the progress of Horticulture will be greatly accelerated, not only in our immediate vicinity, but throughout the country.

Many new fruits have been figured and described. Among them several pears of high character, which have not yet fruited in the country, but of which specimens have been sent by M. Leroy, of Angers. Our readers must feel indebted to him for his information, and we are glad to be able to say that similar notices of new fruits of all kinds will be continued. Of the Pears, which another year has proved to be fine, as well as those which promise well after a single trial, we may name Smith's Bordenave, Sheldon, Nouveau Poiteau, Bell Epiné Dumas, Calhoun, Beurré Langelier, Rondelet, Beurré Giffart, Beurré Benoits, Collins, Duchess of Berry, Monarch, Supreme de Quimper, Vessouziere, Doyenné du Comice, Delicés d'Hardenpont de Belgique, Beurré Pater Noster, &c. Of Grapes, the Gros Bleu and Wilmot Black Hamburg No. 16. Of Plums, the Reine Claude de Bavay; and of Peaches, the Reine des Vierges and Stetson's Seedling. Our Pomological Gossip will give the details regarding many of them.

FLORICULTURE.

There is a steadily, but not rapidly, increasing taste for plants; not so rapid as we could wish, or hope, to see. The all-engrossing fruit mania has dampened the ardor of many admirers of beautiful plants, and the greater certainty of a profit from the former than the latter, has induced some of the former admirers of these favored forms of creative power to fill their tulip beds and front-door parterres with fruit trees, more especially pears. Now, though we have no word of reproach to offer against the absorbing interest of fruit culture, more especially the pear,—to which we have ourselves devoted so much time, care and attention,—not to name expense,—still we would not,—and *we* have not,—

neglected the culture of the simplest flower. We know that our Flushing neighbors talk of "laying out anchors to the windward," and plant orchards to fall back upon, as they say, when the nursery business will not pay,—aye, *pay*,—for it is not to be supposed a nurseryman grows a plant because he loves it,—but we indulge in no such fancies. It is an in-born necessity which compels us to rear and train up a beautiful plant, or labor to produce something from the raw material nature has given us, which will be worthy of cultivation by all true admirers of flowers, whether it does, or does not, pay; and when we have cultivators who are imbued with similar feelings, as we have some now,—and hope to have many more,—the progress of ornamental gardening will advance with a rapidity which we have not yet experienced.

The cultivation of *specimen plants*, as they are termed in England, where their growth has been carried to the highest perfection, has as yet attracted but little attention among our amateur or professional cultivators. If a plant is kept in health, no matter how long, lean, and lanky it may be, that is considered ample, if it will only bloom. The form, symmetry, beauty, or, as we might say, the *tout ensemble* of the plant is scarcely thought of. It is no wonder that gentlemen often become careless of the condition of their greenhouse and regardless of its attractions, when it is filled up, as is too often the case, with such meagre and ill-shaped specimens. We hope for more improvement in the growth of greenhouse plants. Gentlemen who know in what a fine specimen consists should *demand* that their gardeners should produce them, provided they are willing they should bestow a little more than the ordinary care upon them. We are glad to have been able to offer such good advice upon this subject as that contained in the series of articles by our correspondent "Hortus." If his directions are followed they will lead to a far higher cultivation than we now can claim, and will speedily bring about a better appreciation of beautifully grown plants.

We cannot omit to call again the attention of admirers of hardy plants to our neglected native species, the *Rhododendrons*, the *Kalmias*, *Azaleas*, *Andromedas*, &c., or their vari-

eties of European origin. The "American garden" appears to be exclusively a European feature. In the Regent's Park, London, every spring, a magnificent display is made of what are termed American plants, consisting of thousands of the most splendid varieties of the above families, and covering an acre or more of ground. These are all brought several miles, (from Bagshot mostly) planted in prepared beds and arranged in groups so as to have a fine effect. The exhibition takes place in June, and is considered one of the most magnificent displays which the Floral world can possibly produce. In August, the plants are all removed back to the nurseries from whence they came, and the succeeding year replaced by another set, giving the former time to rest and recover from the removal. It is these displays, which for years were made individually by the late Mr. Waterer, proprietor of the American Nursery, near London, and latterly by the Royal Botanic Society, which have made known the attractions of our favored, but, to our own gardens, sadly neglected, plants.

Our last volume has contained some very excellent articles on subjects not generally considered of vital importance, while in reality they are so; we particularly allude to the papers of Mr. Bock, upon the Drainage of Plants, and the Effects of Indiscriminate Watering after Potting; they deserve to be thoroughly read by the young gardener, or amateur cultivator. A long paper on the Preparation of Plants for Forcing, from Paxton's Magazine, is full of sound advice upon the subject of which it treats. It is so common to see whole houses of plants, with scarcely any flowers till towards the advent of spring, that we might infer it was scarcely possible to have them during mid winter; but if the right kinds are selected, and their treatment such as is detailed in the articles referred to, a very small house will supply an abundance of flowers during a most dreary portion of the winter.

Many new and fine plants have been recently introduced. Among these, *Gardénia Fortuni*, *Hoya bella* and *imperialis*, *Luculia Pinceiàna*, *Lantàna liliacina*, *Hydránga involu-cràta*, *Begònia cinnabarina*, *E'pacris miniàta*, *O'xalis élegans*

and caprina, *Sálvia pátens álba*, *Dipteracánthus spectábilis*, &c. Besides many new varieties of Fancy Geraniums, and other kinds; Lilliputian chrysanthemums, Verbenas, Fuchsias, &c., which have been noticed in our Floricultural Gossip or will be in the next volume.

ARBORICULTURE.

If our countrymen are backward in any department of horticultural improvement, it is that connected with ornamental planting and landscape art. True it is, nature has unsparingly lavished upon our country, throughout its whole extent, varied scenes of picturesque beauty; and this, to a great extent, has relieved us of the necessity of creating them by art. Yet they do not exist everywhere, and the hands of our ancestors,—sometimes thoughtlessly and sometimes necessarily,—too freely applied the axe alike to the saplings and giants of the forest, and left bare regions of country, which now, spanned by railroads, have become the busy haunts of men, and are dotted over with cottage and villa, unsheltered from the winter's cold and summer's heat, presenting, with their whitened exteriors, a bleak and forbidding aspect, and showing sadly the want of the planter's hand to give a tone and finish to the picture. How many such villages New England contains, we leave to others to answer. For though there are hundreds which are indeed models of rural beauty, there are many which can lay no claim to such a distinction, but show how important is the diffusion of that information which shall lead to a better result.

We have, in our last three volumes, devoted considerable space to a full description of our most ornamental trees and shrubs, more particularly in our last volume, in which the characteristics, habits and principal attractions of more than fifty of the most desirable trees for the purposes of shelter, shade and picturesque effect, have been enumerated, together with some remarks on forming plantations of trees, avenues, &c. We shall continue to add, in the present and future volumes, a similar account of other trees, particularly evergreens, which are best adapted to the purposes of the ornamental planter.

Every year gathers up additional facts relative to the hardiness of many of the new and rare Coniferæ which have but very recently been introduced. At page 460 we have given an account of several pines which have withstood the severity of our climate for three or four years ; and the information which comes to us from various sources shows that much remains yet to be known in regard to locality, soil, exposure, &c., before we can safely pronounce a tree not to be hardy. We have, we believe, before mentioned that *Cèdrus deodàra*, in a soil where the least moisture stands about its roots in winter, often loses the ends of its branches, while in a dry locality it is as hardy as our native hemlock ; and we have recently noticed, in our foreign journals, that the *Cryptoméria japonica* in Scotland, in cold, damp soils, is almost sure to be destroyed, while in a dry one it has come out of the winter unharmed. These facts show that we should not hastily decide upon the hardiness of a tree, but await the trial of experiments in various soils and exposures.

We look forward with high expectations, of many valuable additions to our hardy trees and shrubs from California. Mr. Prince, of Flushing, has returned after three years' sojourn there, and in a supplementary catalogue which he has forwarded us, we notice no less than forty species, among them two magnificent *evergreen* oaks, a California Bay or laurel, with splendid evergreen foliage, an evergreen *Photinia* with clusters of snow-white flowers, an *arbor vitæ*, forming a tree one hundred feet high, *Pinus californica*, *ponderosa insignis*, &c. &c., *Cuprèssus mexicana*, *Juniperus mexicana*, and others. These will all undoubtedly prove hardy, especially in the middle states, and will be most important additions to our already increasing variety of trees and shrubs.

It only remains now for our nurserymen to take hold with energy, and propagate a good stock of all the finer species and varieties, and test the hardiness of those of which there are doubts, that gentlemen may know which to buy and which to reject. Some information of this may be obtained by knowing the native habitat, and the country from whence they were introduced. But there is no such satisfactory way of ascertaining the requisite information as by actual trial.

COMMERCIAL GARDENING.

The increase of nurseries in all parts of the country and increased attention given to planting, are the best indications of success. Notwithstanding the abundant stock which our own nurserymen are able to supply, large quantities of trees are imported from France and England. When received in fine order these are generally excellent trees, but as a great many of them get bruised and broken in the packing, and are often heated in the bundles, the results are, we believe, fully as expensive a way of purchasing trees as if they were obtained at home. Still we like to see trees planted, come from whence they may, and while such importations will do our home nurserymen no injury, they will often, by their cheapness, induce those who once try, to look a second time for better results.

We hinted, last year, at the propriety of seeking some protection, in case of a revision of the tariff, for the nurseryman as well as the manufacturer, and our remarks called forth one or two replies from some of our cultivators, some arguing in favor and some against the measure. There is not much danger of such a thing being effected if it was desired; and, on the whole, though not yet imbued with the "free trade" policy, we think on reflection that it would be of no great benefit to lay a specific duty upon trees.

Our nurserymen are yearly becoming more systematic in their profession; the practice of setting out specimen trees of all kinds, which we have, from time to time, urged as of so much importance, seems to be generally acted upon by extensive dealers, and we have no doubt, a few years hence, no nurseryman of any reputation will be without a larger or smaller collection of specimen trees.

HORTICULTURAL LITERATURE.

But few new works have appeared the past year. The *Flower Garden*, or Breck's Book of Annuals; the *Fruit Garden*, by P. Barry; and the *Gardener's Text Book*, by Mr. Schenck, all reviewed in our last volume. *Rural Homes*,

by Gervase Wheeler, which will be noticed in our next. A new edition of Dr. Dana's *Muck Manual*. And of periodical Works, the *Western Horticultural Review*, published at Cincinnati, by Dr. Warder, and the *American Pomologist*, by Dr. Brincklé. The *first* volume of our *Fruits of America*, containing forty-eight splendid plates, has been completed, and the first number of the second volume published.

OBITUARY.

In addition to the name of Gen. Dearborn, whose death has been noticed at page 428, we have now to name those of three of the most prominent writers on agriculture. Gov. Hill, of New Hampshire, editor of the *Farmer's Visiter*; J. S. Skinner, Esq., editor of the *Plough, Loom and Anvil*, and S. W. Cole, editor of the *New England Farmer*, who died but a week or ten days before our present number went to press. The loss of these gentlemen will be severely felt by the agricultural community, as the journals which they respectively edited had a great circulation, and their merit was mainly owing to the known ability, talents and energy of their editors.

ART. II. *Description and Plans of the Fruit Room of Jos. Moorman, Esq., London.* By ROBERT THOMPSON.

ONE of the most interesting subjects at the present moment, to fruit cultivators, is the preservation and ripening of early and late winter pears. A great many methods have from time to time been described, and laid before the public, but either from a want of a knowledge of the proper means of carrying out the views of the authors of these methods, or from the incompetency of them to accomplish what has been claimed, they have generally failed to give satisfaction, and have not been generally adopted by cultivators. M. Victor Pacquet, of Paris, has devoted much time to the preservation of apples and pears, and has published a small treatise

tise on the subject illustrating his method of practice. In regard to the construction of fruit rooms, his views are the same as those of Mr. Moorman, or rather we might say Mr. Moorman's are the same as M. Pacquet's, as his publication appeared six or eight years ago. But Mr. Moorman's differs in this respect, that while M. Pacquet uses charcoal and sawdust to partly cover the fruit, Mr. Moorman merely places his upon open shelves.

We have long been aware of the skill of Mr. Moorman in preserving his pears, and we remember of reading in one of the reports of the London Horticultural Society some notice of his specimens, with the remark, that his mode of keeping his fruit "remains a mystery." On the 16th of January, 1849, he sent for exhibition specimens of Napoleon, Beurré Diel, Glout Morceau, &c., which were in a "most excellent state of preservation," and for several years Mr. Moorman sent "a similar collection of the same fruit about the same season, and always in the same condition,—plump and sound as when removed from the trees."

We are glad, therefore, to be able to give an explanation of that which for so long a time remained a "mystery," and as the facts are communicated by Mr. Moorman, through Mr. Thompson, in the *Journal* of the London Horticultural Society, from which we copy, it may be relied upon as a solution of the method by which he could keep November pears, like the Napoleon, two months beyond their season,— "plump and round as when removed from the trees,"—to the middle of January. The veil being removed, it will be seen that there was, after all, no great "mystery" in his plan, and we think that when the truth is told there will be as little "mystery" in all other methods for the preservation of fruit, which may be brought before the public,—for we do not believe that fruit can be kept in perfect order, only through the agency of ice, longer than Mr. Moorman was enabled to preserve his.

We have occasionally noticed in our last volume, specimens of pears, particularly Easter Beurrés, (p. 216,) preserved in excellent order by Mr. Curtis, of Boston, and some account

is given of the order in which specimens of these were received by the London Horticultural Society to whom they were sent. But though we believe the method is considered a secret by Mr. Curtis, we see nothing in the preservation of his fruits which induces us to believe there is any great "mystery" about it, or that he has been able to accomplish more than Mr. Moorman. Indeed there can be no mystery, the whole result being obtained in no other way than by a low and even temperature free from variableness of moisture. Charcoal, plaster of Paris, saw-dust, sand, &c., may be used to keep the fruit from contact with the air; but it is doubtful whether any advantages are obtained from them, when the *temperature* is right. In ordinary cases, where there is no proper place to store fruit away from changes of temperature, such substances may be used with beneficial effect. We have ourselves tried some experiments in this way, and find that with a proper constructed fruit room, most of the fall pears can be kept from one to two months beyond their ordinary season.

The subject, as we said in the commencement, is one of great interest and importance. The fall supplies us with an abundance of the choicest pears; and it is only after the beginning of December that the supply begins to decline. With our present stock of fine winter pears, there is little need of keeping Napoleons and Beurré Diels over till January. These can be dispensed with. The question is, how to keep the fine winter sorts, such as Glout Morceau, Beurré d'Aremberg, Winter Nelis, Monarch, Lawrence, Beurré Langelier, &c., in fine order even up to January, for we find that but few of our cultivators do keep them beyond the middle of December? It can be done only on Mr. Moorman's plan, and our advice to cultivators is to eschew all "secret" and "mystified" means of preserving fruit, and go to work in the legitimate way, as laid down in the plans and the advice which follow:—

"The supply of fruit in autumn is almost superabundant in favorable seasons, and in varieties there is then an ample

choice. Many of these, however, are naturally of so short duration, that they cannot be long kept well under any circumstances. Means may be adopted for preventing their decomposition, but their flavor is frequently deteriorated or completely lost. In general, those kinds that ripen early soon decay; and a large proportion of the fruit cultivated by extensive growers is of this description, because it pays them better to take such at once to market than run the risk consequent on the keeping of later varieties. Hence we find that towards Christmas the quantity of fruit, of pears more especially, is greatly diminished, and that the choice is reduced to comparatively few sorts. Such favorites as the Marie Louise and Beurré Bosc are not to be had under ordinary circumstances. In January the scarcity becomes greater, and Jersey Chaumontels make their appearance, imported at the high price of, not unfrequently, 5*l.* per hundred; whilst well matured specimens of the Easter Buerré and Beurré Rance are in request, leaving the greener and less perfect of these, and a few of some other sorts, to make occasionally the appearance of supply during the spring months,—quite inadequate, however, to meet anything like a regular demand, such as would certainly be made if pears could be well kept in abundance till that period.

The high state of perfection in which fine specimens of pears have been frequently exhibited to the Society by Mr. Moorman at periods of the season much later than the varieties usually keep, rendered it very desirable to obtain an account of the method by which these were preserved in such admirable condition. On applying to Mr. Moorman he kindly afforded every information with regard to the mode by which his pears are kept; and he also permitted Mr. Sibthorp, the superintendent of works at the Society's Garden, to make the accompanying drawings, which will give a correct idea of the place.

The room was not originally constructed for a fruit room; but, by a little adaptation, Mr. Moorman has succeeded in rendering it a most excellent one, as is proved by the prizes awarded for the productions exhibited from it,—not in any

one year, but repeatedly, year after year. It is a partitioned-off portion of a loft, which extends over a coach-house and stables, and is that part which is above the coach-house. It was originally fitted up for a harness-room, the walls, as is usual in such places, being lined with wood. The roof is slated. The range of building is detached, and faces the southwest.

It will be observed that there is a cavity, *c*, between the boarding and walls. This, I believe, is an important circumstance, and so is the wooden lining, because air and wood

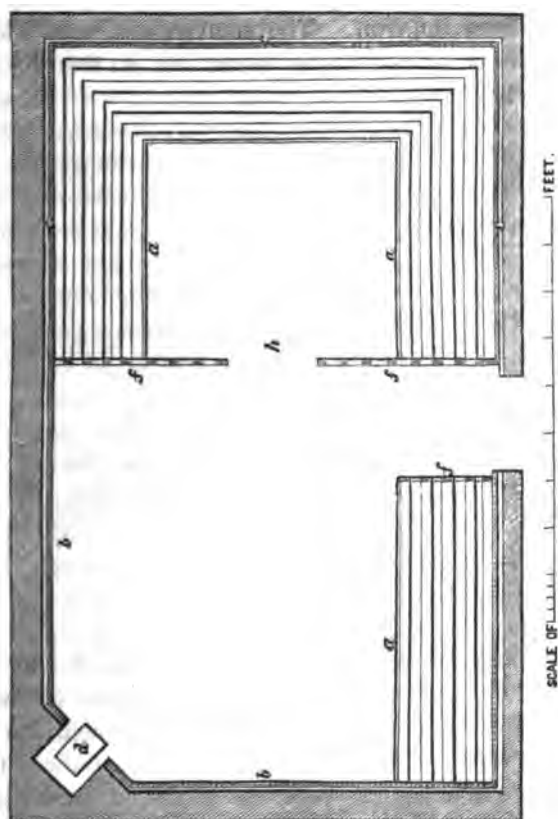


Fig. 1. Plan of Mr. Moorman's Fruit Room.

are known to be slow conductors of heat. The ceiling on the north side is double, and the floor is wood above a ceil-

ing. We may therefore conclude that a uniformity of temperature in the interior of the room is insured to a considerable extent.

There is the small stove, *d*, but it is seldom used, and never with the view of warming the air of the room, unless the temperature is actually below freezing. The fruit is therefore kept cool. The swing-window, *e*, is occasionally a little opened; but it is at all times covered with a roller-blind, so that the fruit is kept in the dark. A little fire in the stove, air being freely admitted by the window at the same time in a dry day, is useful for speedily removing any damp which may arise from the fruit. The shelves, *a a*, have a layer of clean-drawn straw laid across them, and on this the fruit is placed singly.

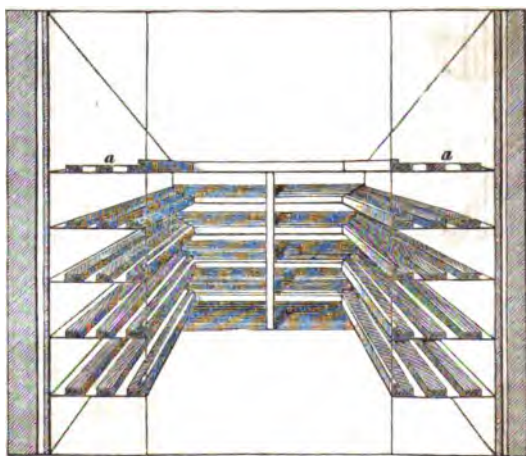


Fig. 2. Interior View.

From a consideration of all the above details it may be inferred, that if a fruit room be built over a place where there is a free circulation of air, its roof double ceiled, the walls lined with wood, a cavity being left between these two, it will possess the essential properties of the one under consideration.

The more important principles necessary to attend to, with regard to the long keeping of fruit, are uniformity of temperature, coolness, and darkness.

If the temperature is uniform, there can be little or no deposition of moisture on the surface of the fruit; but if the

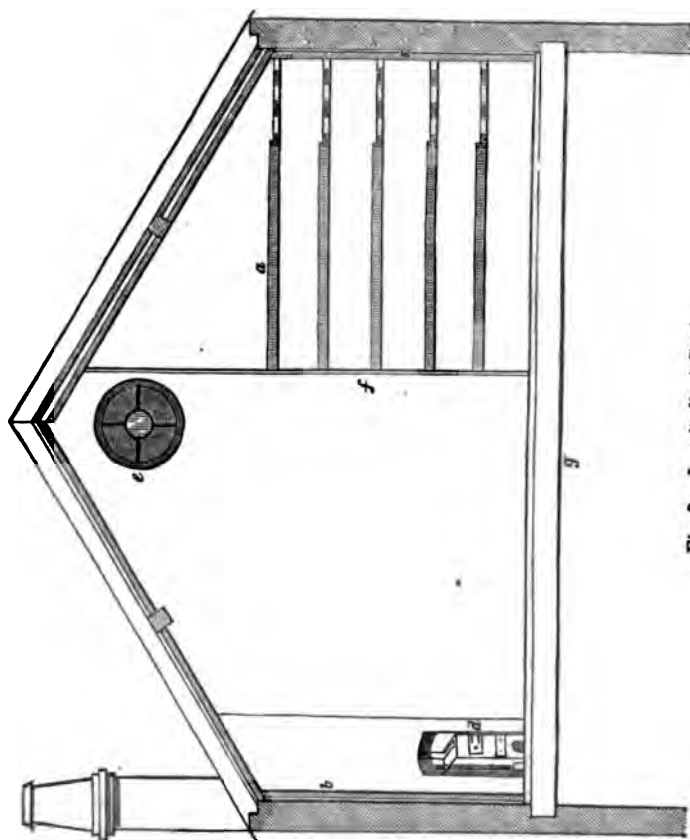


Fig. 3. Longitudinal Section.

EXPLANATION OF THE LETTERS.

- a. Shelves made with battens, $1\frac{1}{2}$ inch wide, and $1\frac{1}{4}$ inch apart.
- b. Close boarding around the sides of the room.
- c. Air space between the boards and the wall. The roof also has an air space on the north side between the two plaster ceilings, as shown on the section.
- d. Stove.
- e. Circular window hung on pivots, and fitted with a roller-blind.
- f. Partitions of open work similar to the shelves.
- g. Coach-house under fruit room.

air of the room should be, say 10 degrees warmer than the fruit, then the relative coldness of the latter will cause a con-

densation of the moisture contained in the air in contact with the fruit, just as a cold glass becomes dewed over when brought into a warm atmosphere. If the air is indeed very dry, then a proportionally greater difference of temperature is necessary to produce the above effect; but in winter the hygrometer seldom requires to be cooled more than a few degrees before it indicates a deposition of moisture. Fruits, with smooth, glossy skins, in close contact with the cold substance beneath them, are those most profusely covered with moisture from the above cause. In russeted varieties their dry, rough coats serve as non-conductors of heat, and hence less moisture is deposited on them. When the air becomes colder than the fruit, a contrary action,—that of evaporation—takes place, and the surface of the fruit becomes dry. But this wetting and drying must prove very injurious; whilst its cause, alternations of temperature, must likewise affect the specific gravity of the juices of the fruit. Mr. Moorman's fruit is not exposed to such vicissitudes; for when the weather becomes frosty, it is several days before the thermometer in his fruit room is affected as much as one degree.

It may be remarked that in giving air a period of the day should be chosen when the thermometer outside indicates the same temperature as that in the room. No deposition of moisture can then take place in consequence.

With regard to coolness, it is well known that this condition is favorable to the long-keeping of fruit; for we act on the contrary when we wish to render any variety fit for use before its usual time. The fruit room in question must be cooler on an average, than if it had been on the ground, for the latter, under a building particularly, is much warmer than the air in winter.

Light accelerates the maturity and ultimate decay of fruit exposed to its influence. If the soundest specimens are picked and placed opposite a window, they soon become much inferior in appearance, compared with those from which the light is excluded, all other circumstances being the same. In Mr. Moorman's fruit room, the light is excluded by a blind, even when air is given.

By such arrangements as those above detailed, Mr. Moor-man keeps the *Marie Louise* in fine condition till after Christmas. He possesses a selection of the best varieties of pears, which he grows chiefly on espaliers, which are well managed by his gardener, Mr. Tucker, in the Clapham-road. He had some remarkably handsome specimens of the *Winter Nelis* in his fruit room in January, much larger than that excellent variety usually grows. We have also seen very large specimens of the *Marie Louise*, grown at his seat at Box Hill, in Sussex. The tree which produced them is trained against the gable end of a barn, about a quarter of a mile from the sea, and this tree is exposed to the strong sea-breezes from the southwest. It was planted in good soil, and a spring below it was discovered when digging the hole for the compost, previous to the tree being planted."

ART. III. *Pomological Gossip.*

ENGLISH SEEDLING STRAWBERRIES AND OTHER FRUITS.—A writer in the *Gardeners' Chronicle*, whose views seem to be in unison with our own in regard to the merits of new seedling fruits, particularly strawberries, makes the following observations upon most of the new varieties of the latter fruit which have been recently brought to notice. Cultivators who are acquainted with some of the varieties he enumerates, will at once recognize the truth of his assertions regarding those kinds; and it will at once afford good proof that his remarks upon the newer ones will be likely to be perfectly correct. It is true, as this writer says, that "high-sounding puffs and advertisements" are often the means of victimizing the public,—and we may add, that they always will be the means of doing so, if amateurs and others will read only "puffs and advertisements," to the exclusion of periodical publications, which are the legitimate sources of information upon this subject.

If our readers need illustrations of this system of victimizing cultivators, let them refer to the Blue roses, Blue camelias, Blue and Yellow carnations, &c., sold in our city by "Messieurs Freres" and others, from Paris,—the Josling's St. Albans grape, by our English neighbors,—and Newland's Alpine strawberry by one of our American dealers. A small amount, paid yearly, for information exposing these humbugs,—not to use the stronger word impositions—would prevent the loss of hundreds of dollars, wasted in time and money in trying such miserable productions.

We agree with the writer, that Horticultural Societies may do much to prevent this—though sometimes they are liable to err,—but these cases will be exceptions to the rule. And we hold it to be good evidence that a fruit is unworthy of cultivation after it has been two or three times reported unfavorably upon, or has not been successful in taking prizes.

"The love of novelty and the love of money are truly prevailing characteristics of the age we live in, and the increase of these passions in a proportionate ratio is every day apparent in high-sounding puffs of advertisements, which are constantly victimizing the public,—not only those who are mere amateurs, but even those who are thoroughly initiated in the art and mysteries of gardening. There are few who follow out this pursuit with spirit but have been taken in more than once, twice, or thrice, by giving long prices for articles inferior to those they were previously in possession of. I speak feelingly, and I am quite sure that my case is not a solitary one. I think that the establishment of the Floricultural Society is, in its sphere, a great boon to the public. Henceforward, flowers, which will not bear the ordeal of that association's censorship, will not be purchased. Well would it be if an association could be formed of respectable nurserymen and gardeners, to decide upon the merits of new fruits; each kind to be sent for their inspection at least twice in the course of each of two successive seasons; they would probably exhibit them under favorable and unfavorable circumstances, and the verdict of such a body would be invaluable to the

purchasing public. Individual opinion on such matters is not sufficient, however honorable, high-minded and far removed from suspicion the censor may be. The Josling's St. Albans grape was a proof of this; a verdict of superior excellence was pronounced upon that fruit by a well-known individual, to whose integrity I need not add my humble testimony. But it proved to be nothing but Chasselas Musqué, a grape which everybody had been growing for years. In Strawberries, my experience has not borne out the assertions made respecting some of the kinds. I do not find the Black Prince worth culture, and have long dispensed with it. It is certainly early, but not earlier than Grove-end Scarlet; less productive, and not so fit for the cook and confectioner, on account of its color. In the dessert, it will not be patronized at a season when large dinners, routes, and balls can be furnished with British Queens, of which every body must take "two bites." As a late sort, it has no value with me, but probably if forced and turned out, it would, like other kinds, yield some late fruit. The Goliah strawberry in like manner is with me acid, insipid, coarse, very large, and a shy bearer; instead of being superior to the "British Queen," it is as much inferior to that excellent kind, as the Queen of the Sandwich Islands would be in comparison with our august Sovereign; the Bicton White was another kind only valuable for its color. If your readers refer to the Journal of the Horticultural Society, they will there find much such an estimate of the "tremendous bearer" and "superior to British Queen" kinds as I have experienced. I for one will buy no more new strawberries from merely advertised descriptions. Myatt's Eleanor has been by some parties described as of "fine flavor;" it may, I think, prove valuable for preserving, but it is disagreeably acid for the dessert; it will, however, be useful, on account of its lateness. Myatt's Globe is a good and useful strawberry, but not equal to Eliza or British Queen. Myatt's Mammoth is only worth growing for display; it is magnificent in appearance, but horrible in flavor. Prince Arthur will prove useful; it is, as the late Mr. Wilmot said of it, "as hard as a cricket ball," and will bear packing well. Unques-

tionably the British Queen is the best kind in cultivation, producing a good crop, if liberally treated, equal to any in size, and superior to all large kinds in its deliciously sub-acid flavor; being at the same time free from the coarse woolly texture which pervades all the former race of large strawberries derived from crosses with the Chili Pine."

MYATT'S CINQUEFOLIA STRAWBERRY.—Some time since (Vol. XVII, p. 400) we noticed a new seedling raised by Mr. Myatt, remarkable for its size. He has since named it the "Cinquefolia," from the circumstance that each leaf stalk is composed of five leaflets. It has not yet been sufficiently tested to know any more of its character than that we gave at the page referred to.

LIBERAL PREMIUMS FOR FINE COLLECTIONS OF PEARS AND APPLES.—The Massachusetts Horticultural Society, with a view not only to render its annual exhibitions highly attractive and interesting to lovers of fruit, but to subserve the cause of pomology by encouraging amateurs and others, who have the means and space, to introduce all the choicest kinds of pears and apples, have added to their list of prizes two for each of these fruits as follows:—

For the largest and best collection of pears, not less than three specimens of each, to be at the service of the Fruit Committee for examination and trial, the Appleton Medal, valued at \$40.

For the second best collection, \$20. And two prizes of the same amount and under the same conditions for apples.

ART. IV. *Floricultural and Botanical Notices of New and Beautiful Plants figured in Foreign Periodicals; with descriptions of those introduced to, or originated in, American Collections.*

THE CHRYSANTHEMUM.—The chrysanthemum has always been a favorite of ours, and we have often been surprised at the little zeal manifested in its cultivation by many lovers of

other flowers which possess less merit than this, and are far less attractive in consequence of their blooming at a period when there is always a profusion of flowers. For several years the London Horticultural Society took a deep interest in the culture of the chrysanthemum, and the introduction of new sorts from China, and their collector in China was especially directed to send home every obtainable variety. The number was in consequence greatly augmented, and the Society made one of the most elegant displays of this autumnal flower. So much indeed was the Society devoted to it, that several elegantly colored plates, of some of the most beautiful kinds, appeared in the *Transactions* of the Society, with full descriptions, by the secretary, Mr. Sabine. All the varieties were subsequently critically examined by the late Mr. Harworth, and a list of those introduced to 1833 was published in *Loudon's Magazine*, and copied into our Magazine, (Vol. I, p. 141.) But gradually the taste for the chrysanthemum seemed to decline, and many of the original kinds were lost to collections; and it was only upon the introduction of the new seedlings of the French and Belgian cultivators, some five or six years ago, that this taste was again revived. Since then it has been steadily upon the increase, gaining strength by the production of many new kinds of great beauty, until it has raised the chrysanthemum to a prominent place among Florists' flowers. At the present time there are several Chrysanthemum Societies around London, who hold annual exhibitions of the flowers, and the success which has attended their organization is the best evidence of the interest that has been created for this best of late autumn plants.

The Stoke Newington Chrysanthemum Society is, we believe, one of the most flourishing. It held its annual meeting on the 20th of November, and numerous prizes were given for plants in pots, and for cut flowers in classes of 24, 12, and 6 blooms, as with the dahlia. As a specimen of the perfection in which the plants are grown, it is stated "that the single specimen plants, with *one stem* only, were examples of the highest cultivation. From a single stem, some inches clear above the pot, the laterals had started; these

again and again feathered, until, as a whole, plants, some 4 to 5 feet high and 15 to 18 feet in circumference, were the result. They were amply furnished with foliage—plump, healthy and vigorous; the flowers on these specimens could not have numbered less than three hundred, and of these there were scores fit for exhibition as single blooms.”

With such results as these, will not our amateurs and professional gardeners endeavor to imitate the example of the London cultivators? We are sure it only needs one grand exhibition of the flowers, to bring it into greater notice, and render it a general favorite.

TWO NEW DOUBLE-FLOWERING PEACHES FROM CHINA.—Two new varieties of the peach are advertised for sale from China. One is called the *Amygdalis persica sanguinea plena*, (double crimson) and the other *A. persica alba plena* (double white). They are stated to be “exceedingly ornamental plants either in the open ground or in pots, constituting handsome objects for winter and spring decoration in the conservatory. They are still so rare as to be priced at *three guineas* each.”

MISCELLANEOUS INTELLIGENCE.

ART. I. Domestic Notices.

RECIPE FOR TOMATO FIGS.—Pour boiling water over the tomatoes in order to remove the skin; then weigh them and place them in a stone jar, with as much sugar as you have tomatoes, and let them stand two days; then pour off the syrup, and boil and skim it until no scum rises. Then pour it over the tomatoes and let them stand two days as before; then boil and skim again. After the third time they are fit to dry if the weather is good; if not, let them stand in the syrup until drying weather. Then place on large earthen plates or dishes, and put them in the sun to dry, which will take about a week, after which pack them down in small wooden boxes, with fine white sugar between every layer. Tomatoes prepared in this manner will keep for years.

A few apples cut up and boiled in the remainder of the syrup make a very nice sauce.—**MRS. ELIZA MARSH.**

It is only necessary for us to add that the Committee of the Massachusetts Horticultural Society awarded Mrs. Marsh the Society's Silver Medal for excellent specimens exhibited Nov. 29. They were tested by the Committee and pronounced to be superior to any they had ever seen. They

were put up in small boxes, and to our taste were far better than two-thirds of what are sold in our market for the best Smyrna figs.—*Ed.*

LARGE STRAWBERRIES.—I know it is out of season for strawberries, but merely wish to mention the very large ones raised on the farm of Mr. Pelham, (see July No., p. 326). Only think of it once, thirty-nine strawberries averaging two and a half inches in diameter, and one measuring eight and three-eighths inches round. All this you do not doubt. Well, you need not have any fears of being lost through any want of faith; this Mr. Pelham is no doubt a wonderful man, and the strawberries are not all the wonderful crops he gets; for in Downing's late edition of *Fruits* he copied a letter from Mr. P., where he says, that in an apple orchard of twenty acres, and the trees eighteen years growth, the whole field was planted to corn, and averaged one hundred and forty bushels ears to the acre. This is all prodigious, and will discourage a modest man like me from ever trying to raise large strawberries or great crops of corn. But to be plain, let me say, against the weight of the opinion of the experienced editor of *Hovey's Magazine* and the publisher of the book on the *Fruits of America*, &c., who stands among the foremost on the list of Horticulturists, (as he is presumed to credit the account), that it is not so. Most truly, I am, Dear Sir, yours, and an interested reader of the *Magazine*, notwithstanding the difference in our opinion on the strawberries, ABIJAH REED, *Hulberton, Orleans Co., N. Y.*, Oct 13, 1851.

ART. II. *Massachusetts Horticultural Society.*

Saturday, Dec. 6.—*Exhibited*—**FRUIT:** From J. Lovett, 2d, pears, *Beurre Diel*, superior, *Le Cure*, fine, *Winter Nelis*, *Echasserie*, *Glout Morceau*, and *Catillac*. From S. Downer, Jr., pears, *Chaumontelle*, superior. From D. T. Curtis, pears preserved by him—*Duchess of Angouleme*, *St. Germain*, *Winter Virgalieu*; apples, *Porter*; grapes, *Black Hamburg* and *Sweetwater*. The grapes were cut Sept. 1st, and were in a perfect state of preservation.

Dec. 13.—An adjourned meeting of the Society was held to-day,—Vice President Cabot in the chair.

On motion of C. M. Hovey, it was voted that the Society's silver medal be presented to A. Leroy, of Angers, France, for the fine collection of fruit sent by him to the Society, and that the Corresponding Secretary be authorized to forward the same with a vote of thanks.

Charles Hall, of Medford, was elected a member. Adjourned one week, to Dec. 20.

Exhibited—**FRUIT:** From H. Vandine, pears, *Glout Morceau*, superior, also *Beurre Diel*. From C. S. Homer, pears, *Martin Sec.* From J. F. Allen, pears, *Winter Nelis*, *Passe Colmar* and *Cross*; and four kinds of grapes. From J. Lovett, apples, *Minister*. From J. H. Morrison, pears, *Winter Nelis*, fine.

Fruits tested. From Hovey & Co., *Belle Epine Dumas*, excellent, *Calhoun*, fine.

Dec. 20.—An adjourned meeting of the Society was held to-day—the President in the chair.

Mr. Cabot, from the Committee appointed for that purpose, reported that a medal of the value of \$50 be presented to Capt. Lovett for the production of the Christiana Melon.

The President, Treasurer, and Finance Committee were chosen a Committee to settle with the Mount Auburn Cemetery.

Messrs. Lovett, Breck, and Haggerston were appointed to nominate a Committee of Arrangements for 1852. Adjourned one week, to Dec. 27.

Dec. 27.—An adjourned meeting of the Society was held to-day. The President in the chair.

The several Committees on Gardens, Fruits, Flowers and Vegetables made their reports, which will be found below.

The Committee for establishing premiums for 1852, submitted a schedule of prizes, which was placed in the hands of the Executive Committee for approval.

A package of books was received from M. Vattermare, which was placed in the hands of the Library Committee. Meeting dissolved.

REPORT OF THE COMMITTEE ON GARDENS.

The Committee on Gardens herewith submit their Report for 1851. The Committee regret that the prizes offered by the Society in this department of its administration seem to excite but little interest. The whole number of fruit, flower and vegetable gardens entered with the Committee the past year was but five; while for the prizes offered for greenhouses and grapes not a single competitor appeared. These prizes have, however, been but recently established, and although none of the effects intended to be produced thereby, are as yet apparent, yet with the hope, that as these offerings become more generally known and better appreciated, more interest in them will be excited, and the ends designed in their establishment be in some measure attained, a discontinuance of them would not, in the opinion of your Committee, be advisable. Although perhaps not coming strictly within the requisitions intended to be exacted, yet desiring to cherish the interest manifested in those objects intended to be promoted by the Society, your Committee have awarded the following prizes to the persons named. Competitors should remember that the Committee are precluded by the rules from visiting any gardens, greenhouses, &c., unless notice is given to the chairman, previous to May 1st, of the intention of the owner thereof to be a candidate for the prizes offered.

Your Committee have awarded—

For the most economically managed, best cultivated, and most neatly kept fruit garden, through the season, to Hovey & Co.	\$25 00
For the 2d best, to William R. Austin, ...	15 00
For the most economically managed, best cultivated, and most neatly kept flower garden, through the season, to J. Mann, Jr.	20 00

And they have awarded no other prizes.

For the Committee, JOSEPH S. CABOT, *Chairman.*

REPORT OF THE COMMITTEE ON FLOWERS,
AWARDING PREMIUMS FOR 1851.

The Committee submit the following Report of Premiums for 1851:—

PREMIUMS AT THE OPENING OF THE HALL.

PELARGONIUMS.—Class I.—For the six best new and rare varieties, grown in eight-inch pots, to Hovey & Co., ...	\$6 00
ROSES.—For the best six varieties of Tea, Bourbon, Noisette, or Bengal, in pots, to Hovey & Co., ...	6 00
CACTUS.—For the best six varieties, to Hovey & Co., ...	3 00
CALCEOLARIAS.—For the best six varieties, to Hovey & Co., ...	3 00
GREENHOUSE PLANTS.—For the best display of not less than twenty pots, regard being had to new and rare varieties, and well grown specimens, to Hovey & Co., ...	25 00
HYACINTHS.—For the best display, not less than twenty varieties, to A. Bowditch, ...	5 00
For the second best, to J. Breck, ...	3 00
TULIPS.—For the best thirty distinct varieties, to Hovey & Co., ...	8 00
For the second best, to J. Breck, ...	6 00
For the third best, to J. Breck, ...	3 00
PANSIES.—For the best twelve distinct varieties, to A. Bowditch, ...	4 00
For the second best, to Dr. C. F. Chaplin, ...	3 00
For the third best, to P. Barnes, ...	2 00
HAWTHORNS.—For the best display, to Winship & Co., ...	3 00
For the second best, to Hovey & Co., ...	2 00
HARDY AZALEAS.—For the best display, to Hovey & Co., ...	5 00
For the second best, to Winship & Co., ...	3 00
SHRUBBY PEONIES.—For the best six varieties, to M. P. Wilder, ...	5 00
For the second best, to M. P. Wilder, ...	4 00
For the best display, to M. P. Wilder, ...	3 00
HERBACEOUS PEONIES.—For the best ten varieties, having regard to the number of varieties, to M. P. Wilder, ...	5 00
For the second best, to Hovey & Co., ...	4 00
For the best display, to M. P. Wilder, ...	3 00
PINKS.—For the best six distinct varieties, to A. Bowditch, ...	4 00
ROSES.—Class I.— <i>Hardy Roses</i> . For the best thirty distinct varie- ties, to Hovey & Co., ...	8 00
For the second best, to M. P. Wilder, ...	6 00
For the third best, to J. Breck, ...	4 00
For the best display, to M. P. Wilder, ...	3 00
Class II.—For the best twelve distinct varieties, to M. P. Wilder, ...	5 00
For the second best, to M. P. Wilder, ...	3 00
For the third best, to J. Breck, ...	2 00
Class III.— <i>Hardy Perpetual Roses</i> . For the best ten varieties, to M. P. Wilder, ...	5 00
For the second best, to M. P. Wilder, ...	4 00
For the best display, to J. Breck, ...	3 00
<i>Prairie Roses</i> .—For the best display, not less than six varieties, to Hovey & Co., ...	5 00

For the second best, not less than four do., to J. Breck, .	\$4 00
For the third best, not less than four do., to Winship & Co. .	3 00
CARNATION AND PICOTEÉ PINKS. —For the best ten varieties, to Hovey & Co., .	5 00
For the second best, to Dr. C. F. Chaplin, .	4 00
For the best display, to Hovey & Co., .	3 00
HARDY RHODODENDRONS. —For the best display of the season, to Hovey & Co., .	5 00
DOUBLE HOLLYHOCKS. —For the best display, to J. Breck, .	5 00
For the second best, to Hovey & Co., .	4 00
DOUBLE BALSAMS. —For the best display, to J. Nugent, .	3 00
For the second best, to J. Breck, .	2 00
For the third best, to J. Mann, Jr., .	1 00
PHLOXES. —For the best ten distinct varieties, to Hovey & Co., .	5 00
For the second best, to J. Breck, .	4 00
For the third best, to M. P. Wilder, .	3 00
GERMAN ASTERS. —For the best display, to Hovey & Co., .	4 00
For the second best, to P. Barnes, .	3 00
For the third best, to J. Nugent, .	2 00
DELPHINIUMS. —For the best six varieties, to P. Barnes, .	6 00
For the second best, to J. Breck, .	4 00
For the third best, to Winship & Co., .	3 00
HERBACEOUS PERENNIALS. —For the best display through the season, to J. Breck, .	10 00
For the second best, to P. Barnes, .	6 00
For the third best, to Winship & Co., .	4 00
ANNUALS. —For the best display of the season, to J. Mann, Jr., .	10 00
For the second best, to P. Barnes, .	6 00
For the third best, to J. Nugent, .	4 00
CAMELLIAS. —For the best twelve varieties, to A. Bowditch, .	8 00
For the second best, to Hovey & Co., .	5 00
FLOWERING SHRUBS. —For the best display of the season, to Winship & Co., .	10 00
For the second best, to Hovey & Co., .	6 00
For the third best, to J. A. Kenrick, .	4 00
PREMIUMS AND GRATUITIES AT THE ANNUAL EXHIBITION.	
PLANTS IN POTS. —For the best display of not less than twenty plants, to Hovey & Co., .	12 00
For the second best, to Winship & Co., .	10 00
For the third best, to J. Nugent, .	8 00
VASE BOUQUETS. —For the best pair, for the Bradlee vases, to J. Nugent, .	10 00
For the best pair, for the Society's vases, to H. Schimming, .	10 00
For the second best, to F. Webster, .	6 00
PARLOR BOUQUETS. —For the best pair, to J. Nugent, .	8 00
For the next best, to Dr. N. Durfee, .	6 00
For the third best, to Winship & Co., .	5 00
For the next best, to Miss Mary Kenrick, .	3 00

CUT FLOWERS.—For the best display during the Exhibition, to J.

Mann, Jr., ...	\$8 00
For the second best, to C. Copeland, ...	6 00
For the third best, to Winship & Co., ...	4 00
COXCOMBS. —For the best six plants, in pots, to H. Bradlee, ...	3 00
For the second best, to A. McLennan, ...	2 00

GRATUITIES.

To J. Mann, Jr., for a floral temple, ...	10 00
To Miss S. A. Russell, for flower vase and basket, ...	5 00
To Mrs. W. Kenrick, for harp and guitar, ...	5 00
To A. Bowditch, for orange plants, ...	5 00
To Mrs. J. Walsh, for grass bouquets, ...	3 00
To H. Schimming, for six vases flowers, ...	6 00
To S. H. Jenks, for dozen of cotton grass, ...	3 00
To A. W. Stetson, for oleanders, ...	2 00
To W. E. Carter, for bouquets, ...	1 00
To P. Barnes, for fine cyclamen, ...	2 00
To R. M. Copeland, for hyacinths, ...	5 00
To R. E. Bell, for hollyhocks, ...	4 00
To C. Copeland, for dahlias, ...	5 00
To Hovey & Co., for new plants, ...	5 00
To R. E. Bell, for antirrhinums, ...	3 00
To M. P. Wilder, for Japan lilies, ...	5 00
To P. Barnes, for Dielytra, ...	3 00
To D. F. Curtis, for snowdrops, ...	3 00
To A. C. Bowditch, for hyacinths, ...	3 00
To J. W. Edmonds, for Bonaparte juncea, ...	5 00

PREMIUMS AND GRATUITIES AT THE WEEKLY EXHIBITIONS.

To Winship & Co., for bouquets, cut flowers, &c., at weekly shows, ...	21 00
To J. Breck, for the same, ...	22 00
To J. Nugent, for the same, ...	19 00
To A. Bowditch, for the same, ...	25 00
To M. P. Wilder, for the same, ...	4 00
To P. Barnes, for the same, ...	22 00
To Hovey & Co., for the same, ...	4 00
To Miss Russell, for the same, ...	16 00
To L. Davenport, for the same, ...	7 00
To J. A. Kenrick, for the same, ...	13 00
To A. Aspinwall, for the same, ...	2 00
To J. Mann, Jr., for the same, ...	15 00
To J. Hovey, for the same, ...	11 00
To W. E. Carter, for the same, ...	1 00
To J. Duncklee, for the same, ...	1 00
To E. M. Richards, for the same, ...	9 00
To Col. B. Loring, for the same, ...	1 00

To J. C. Pratt, for the same, ...	\$3 00
To Miss Sargent, for the same, ...	1 00
To Miss Kenrick, for the same, ...	1 00
To Mrs. G. W. Allen, for the same, ...	1 00
To Mrs. Daggett, for the same, ...	1 00
To J. Frothingham, for the same, ...	2 00
To B. Harrington, for the same, ...	3 00

REPORT OF THE COMMITTEE ON FRUITS, AWARDING PREMIUMS FOR 1851.

The Committee on Fruits now submit herewith their award of prizes for the year 1851.

Before announcing their awards, your Committee cannot refrain from congratulating the Society that, from the attendance of the public, the number of exhibitors, and the quality of specimens placed upon its tables, it is evident that there is no diminution of interest, either in the exhibitions of the Society, so far as this department is concerned, or in the objects for which the Society was instituted. Indeed, your Committee are of opinion that instead of diminishing, the interest taken in horticultural pursuits is constantly increasing, and that while its processes have become subjects for scientific investigation in order to ascertain the best mode of conducting them, the principles indicated by such investigations are constantly being submitted to the test of experiment by the best and most judicious cultivators. That the reducing of the principles established by science to practice, is having a beneficial effect upon the products of the horticultural art, is in a measure established, by the fact of specimens of these products, from year to year, of a superior quality to any preceding exhibition of the same product. When, for instance, fruit of the same species and even of the same variety, is placed upon your tables superior in size, beauty and quality, to any specimens of the same species or variety before exhibited, and this happening not once only, but constantly year after year,—the last always excelling its predecessors,—it is to be presumed that this continued increase in excellence is rather to be imputed to a constantly improving mode of cultivation, than to the accidental circumstance of a peculiarly favorable season, soil or position.

This is not the proper occasion, neither is it the design of your Committee, to enter upon the discussion of the subject of “specific or special manures,” but it is a fact that can hardly be disputed that some particular mode of cultivation, the application of some particular agent of fertility, either in respect of kind, composition or quality,—a soil consisting of some particular component parts must be best adapted to the different species if not varieties of fruits,—exercising a beneficial influence under some circumstances upon the growth and vigor of the tree or plant, and under others exercising an influence upon the fruit, and the continually improving quality of the different species of fruits induces a hope that experiments are in progress that will lead to a solution of these and other interesting problems. In this connection, the expression of a wish that the mode of cultivation, manures

applied, soils used, &c., by the most judicious and most successful cultivators, may be obtained for the use of the members of the Society and through them for the public, relating as this does to a subject of much importance and about which all are in some measure interested, may not be considered improper. The cultivation of fruit is yearly growing in importance not merely as an article for domestic use and consumption, but for the supply of the market, and perhaps even for foreign export. Subject by the facilities for intercommunication afforded by railroads and canals to the competition of more congenial climates and fertile soils, the common products of horticulture as well as agriculture are yielding at best but a scanty remuneration to the cultivator for his labor and capital, with a prospect of a diminution rather than an increase of this remuneration, and it is therefore, if this is true, becoming daily more and more incumbent upon them to bestow their attention upon those products that will most probably yield the best returns. Considering then that the vicinity of Boston, and perhaps a considerable portion of the State, is particularly well adapted to the growing of fruit,—some species, as pears, for instance, raised here having it is believed an acknowledged superiority,—no product of cultivation seems to offer a better chance for profit than the raising of fruits, it being to be remembered, that having now frequent opportunities of tasting those of superior excellence, the taste of the public is becoming more and more fastidious, and thence that it is becoming more and more important for the attainment of this object to raise those of the best quality only.

So numerous and so excellent have been the specimens exhibited in competition for the prizes, that the Committee have, in some instances, been embarrassed in making their awards; where so many are nearly equal in size, quality and beauty, it is not always easy to decide which are the best. The Committee have strenuously endeavored in all cases to do exact justice to the different competitors, and if they have failed in this respect it has been through an error of judgment. Having made minute and careful examinations, and a record of these examinations, from week to week, a judgment in opposition to their awards, though fairly formed, from recollection merely, without such record, might at least as properly as theirs be subject to the imputation of error. The fact of a particular variety of fruit being or not being well adapted to general cultivation, as well as its quality, has influenced the Committee in their conclusions. They have felt that they should not be justified, through danger of misapprehension, in awarding a prize to a fruit generally of inferior quality, or one not suited to general cultivation even when the particular specimens exhibited were of superior excellence.

Stone fruits, as cherries, plums and peaches, have the past year been very superior in quality and very abundant in quantity; pears have varied very much in quantity if not in quality, the crop in some places being scanty and in others abundant, showing, most probably, the effect of the preceding winter upon the trees in different places, while of apples, almost every where the product has been small.

Opportunity has been afforded the past year of tasting of several new varieties of fruits, and as the numerous introductions of the last few years are

now coming into bearing, constantly increasing opportunities for testing the quality, bearing properties and adaptation to general cultivation of these introductions may be reasonably expected. As, however, no conclusive judgment can properly be formed of the quality of a fruit the first year, or from a few specimens only, but little more than a partial enumeration of these now varieties will here be attempted. Although much disappointment should be anticipated, yet it is not unreasonable to hope that among the many varieties imported during the few past years, some may be found of great excellence. That what is now beginning to be regarded by cultivators as one of our best winter pears, and well adapted to general cultivation, the *Gloist Morceau*, was but a few years since almost condemned as nearly worthless, should be a warning against hasty conclusions or a premature judgment respecting the quality of a fruit, and although, as has been remarked on a similar previous occasion, it is best for beginners to content themselves with those varieties whose qualities have been long and thoroughly tested, those who have new varieties should be cautious not to reject after one or two trials only, but permit their trees to arrive at maturity before coming to a decision respecting the value of their fruit.

Through the kindness of J. P. Cushing, Esqr., your Committee had the past year an opportunity to taste thirty-two varieties of the strawberry, raised by that gentleman at his seat in Watertown, for the purpose of testing their quality and value for cultivation. Many of these varieties are American seedlings of recent origin. Among these strawberries, the *New Pine*, and *Burr's New Pine*, were thought to be of high flavor and very fine quality, and the *Cornucopia*, though acid, to be well flavored and good. As none of the others, with the exception of a few well known sorts, were considered above a medium quality, an enumeration of their names is felt to be unnecessary. Of strawberries, the early *Virginia*, *Hovey's Seedling* and *Jenney's Seedling* are thus far, taking all circumstances into consideration, probably the most profitable and best for general cultivation in this vicinity. There are, however, other varieties worthy of trial. The President of the Society has a seedling, raised by him, that gives indication of being worthy of a place with the foregoing, though the fact of its being a staminate plant somewhat deteriorates from its value, and the qualities of the two first above named are such as to entitle them to a place in a collection. On June 21st, a seedling strawberry was exhibited for the first time by Isaac Fay, called by him *Jenny Lind*, that seemed of good promise.

There have been some new cherries upon the tables the past year. The Hon. M. P. Wilder presented on 21st June a box of the *Belle d'Orleans* cherries, that for its earliness, if for no other reason, promises to be of value. It was in color of a light red, of good size, sweet, but somewhat deficient in flavor. The same gentleman exhibited on July 5th, the *Bigarreau Gabanlis* or *Monstreuse de Mezel*, a very large cherry, resembling in appearance the *Black Tartarean*; also on the same day, the *Cerise de Xavier*, the *Lemercier* and *De Spa*: these were all acid fruits of a red color, not unlike the *Morellos*, and probably better suited to the kitchen than the dessert; and

on July 12th, the Bigarreau Noir Tardif, of a very dark color, sweet and good, and the Downton, a late red cherry of superior quality.

On July 12th, Messrs. Hovey & Co. exhibited a seedling cherry that was a very large fruit, very dark in color, firm in flesh and very fine in quality; and the Messrs. Hyde, a seedling of moderate size, dark colored, that seemed to be of the Mazard family. On the previous exhibition, July 5th, there was a seedling from Seth Davis, of West Newbury, stated to be remarkable for its bearing properties. It was a mottled flesh-colored cherry of not more than common quality. On August 2d, the Committee had an opportunity of tasting another seedling cherry from Messrs. Hovey & Co. that was of the largest size, firm flesh, amber color, mottled with a red cheek, sweet, high flavored and very fine.

For much of the interest attending their weekly exhibitions, especially in the earlier part of the season, the Society is under obligations to Messrs. J. F. Allen, Hovey & Co., W. C. Strong, and J. Breck & Son, for the exhibition by these gentlemen of grapes grown under glass, in large quantities and great variety; other exhibitors have occasionally placed upon its tables specimens of this fruit of very superior quality; among those to whom the Society is so indebted may be named J. P. Cushing, Esq., Dr. Nathan Durfee, Mrs. Durfee, M. H. Simpson, Esq., S. Bigelow, A. Bowditch, James Nugent, Cheever Newhall, A. W. Stetson and others.

On August 9th, specimens of several varieties of grapes were received from Roswell L. Colt, Esq., of Patterson, N. J.; they were forwarded to the Society by Mr. Colt, for the purpose, among others, of furnishing specimens of his mode of culture, having been raised on "Hoare's Plan," in a house facing the east, with the roots of the vines inside the house, but to which Mr. C. last year added an outside border with openings to it from the inside. The house in which these grapes were raised is stated to be a very cold house, and that there had been fire in it but nine times. Mr. C. thinks his "finest flavored grapes are raised under glass without fire heat." These grapes had been so injured by the carriage that no very correct estimate could be formed of their quality; so far as an opinion could be formed they appeared to have been well ripened and of good flavor. As a mark of his interest in the Society this attention and courtesy is highly appreciated by the Committee.

On July 5th, Mr. Allen, who, on January 4th, had placed on the tables of the Society grapes cut from the vines on the morning of that day, and on April 26th those of the new crop, exhibited a new dark colored grape, with small berries, called Partridge Foot,—it was sweet but probably not worthy of cultivation; and at a subsequent period the Raisin de Calabre, a rather small white grape of a very rich sweet Muscat flavor, that he thinks may be Josling's St. Albans; also a grape called Caillaba, with small oval transparent berries, sweet but without much flavor.

The grape exhibited by Mr. Allen, under the name of Lachmere's Seedling, and by Mr. Strong under that of Blanche Vyron, proves to be McCreedy's early white, a grape probably well suited to out-door culture.

Mr. Strong has the past season exhibited grapes called the Black Muscat

or Damascus, with large berries and very handsome; it was a very good grape, though not of very first quality, and on account of its size, beauty, and goodness worthy of cultivation. It was new to the Committee.

Messrs. Hovey & Co. exhibited on June 14th, and subsequently, a very fine and beautiful grape called Gros Bleu, that strongly resembled in appearance Wilmot's No. 16, but that is said to be a distinct variety.

Bromham Hall and Beechwood melons, both of superior flavor and quality, but probably not suited to out-door culture, have been exhibited the past season. For general out-door cultivation the seedling melon of Capt. Lovett, called the "Christiana," raised by him from a green Malta melon, impregnated with a very early variety, it is believed has not yet been equalled. In order to mark their appreciation of its merits and as their recommendation of it to growers of this fruit, the Society have awarded Capt. L. a piece of plate of the value of \$50.

No new raspberry, blackberry, currant, or gooseberry, especially worthy of notice, has been exhibited the past year. The blackberry known as the cultivated High Bush blackberry, was the past season remarkable for size and beauty, and is thought to be well worthy of cultivation; and that these, with the Knevet's Giant raspberry as well as the Franconia, and perhaps Fastolf raspberry, are worthy of a place in every garden.

August 9th, Mr. Amos W. Stetson presented to your Committee a box of very early plums, that for one ripening so early may be pronounced of very fine quality. Mr. Stetson stated that this plum was a seedling raised by John Trask, of Lynn; it was a small oblong purple plum of good flavor, a free-stone. Aug. 16, the Myrobalan, a small round red plum, of pretty good quality, resembling in appearance the Golden Cherry, was exhibited by Dr. Eben. Wight. Although the past season was very prolific in plums, and these too produced in great perfection, but few opportunities have been afforded of testing any new varieties of either foreign or native origin.

This last remark is, however, in no ways applicable to pears, of which fruit many new varieties, fruited for the first or second time, have this year been exhibited. Among those of native origin, may be mentioned a pear from D. Marcellus Wheeler, said to be a seedling from the St. Michael, resembling that variety in size, color and form, that was a juicy fruit of pleasant flavor, and seemed to be of good promise; also the Muskingum, from G. Greene, of Norwich, Ct., a high flavored, juicy, melting pear, of medium size, roundish form and yellow color,—both exhibited August 30. On October 4, Mr. John Hill exhibited a seedling pear, small, of yellow color, with a red cheek, and some russet both at stem and calyx, that was handsome and sweet; it has been sometimes known as the Burrill pear. The Collins or Watertown pear is a seedling pear, raised by Mr. Collins, of Watertown, many years since, and has been now repeatedly tested by your Committee. It is in size above a medium, of a roundish obovate form, with a short thick stem; when ripe, of a yellowish color, blotched and striped with red in the sun, with a little russet about the stem; the flesh is white, melting, juicy, a little subacid, of very pleasant flavor; its season is early in October. This pear is believed to be well

worthy the attention of cultivators. Ripening at about the same season, October 1, is another seedling pear, raised by Mr. Tudor, at Nahant. This also is a pear of medium size, rather flattened, obovate form, of a yellowish green color, tinged with blush, of a pleasant flavor, sweet and good, subject, however, to the serious drawback of a liability to rot at the core. In addition to the preceding, some few other seedling pears have been exhibited the past season, but as no memoranda respecting them was preserved no attempt at a description of them can now be made. The notice of the foregoing pears, of native origin, has been somewhat detailed, because, as such may yet prove better adapted to our climate and general cultivation than those of foreign introduction, cultivators may desire early information of their quality.

With respect to the new pears of foreign origin that, for the first or even second time, have been exhibited the past year, an enumeration of their names can alone be here made, because that, in some instances, only a single specimen, and that immature, picked before ripe, was exhibited, and in others, for other reasons, no decided estimate of their quality would have been justifiable. Neither is it to be pretended that the list given is complete, only that it embraces those that, on account of some particular circumstance attending their exhibition, particularly attracted the attention of the Committee. Among the new pears then exhibited, was *Beurré Dremont*, *Beurré Benoist*, *Princess Marianne*, *Poire Ridelle*, *Charlotte de Brower*, *Adelé de St. Denis*, *Poire d'Albret*, *Poire Cire*, *Bezi d'Esperin*, *Belle Apres Noel*, *Fondante Millot*, *Beurré Navez*, *Millot de Nancy*, *Louise de Prusse*, *Bergamot Picquet*, *Conseilleur Ramiez*, *Charles Van Hooghten*, *Compte de Paris*, *Baronne de Mello*, *Grand Soliel*, *Souverain d'Ete*, *Graine de Coraile*, *Delice d'Alert*, *La Marie*, *Bezi Tardif*, *Vessouziere*, *Colmar du Lot*, *Poire Caesie*, *Poire Serrurier*, *Poire Neil*, *Leon le Clerc*, *Buchanan's new Spring Beurré*, *Duchesse de Berry*, *Poire His*, *Gloire de Cambron*, *Rondelet*, *Poire Gerando*, *Poire de Mons*, *Rosmette*, and others.

To designate merely the particular varieties of pears, of which superior specimens were exhibited, would probably subserve no valuable purpose. A statement of any particular mode of culture that conduced to this superiority might impart useful information; but of this, if such there was in any case, your Committee have no knowledge. In some instances this excellence may have been the result of accidental causes, as a peculiarly favorable soil; in others, of a better cultivation. The rules of the Society require no statement from the exhibitors; the awards of the Committee are made from an examination of the specimens presented.

But few new apples worthy of particular attention have been exhibited the past season. Among those that should not be past by unnoticed, was an apple, presented by Mrs. N. A. Haven, of Portsmouth, on 26th of April. It was a large apple, of a greenish yellow color, with fine red in the sun; sweet, fine flavored, firm fleshed, and, in the opinion of your Committee, to be ranked with the very best late keeping sweet apples. The history of this apple is not known to your Committee, but it is presumed to have originated at Portsmouth. The *MacCartney* apple, a seedling from West Cam-

bridge, of a red color and very handsome, was exhibited as late as June 7th; it is rather acid but brisk, and valuable for its late keeping properties.

Baldwin, Roxbury Russet, and other apples, were exhibited as late as June 14, by Mr. Bowen Harrington, in a fine state of preservation. These apples had been kept by being merely placed, from the time of being gathered, upon boards in a cellar. The summer apples of last year, placed upon the tables of the Society, were, in some instances, particularly fine. This remark applies especially to the Williams Favorite; so fine specimens of this variety and in large quantities, too, were probably never before exhibited. This is a very fine and very handsome apple when well grown, but requires high culture to bring it to perfection. A few specimens of the Northern Spy have been exhibited for the second time, the produce of the same tree from which those first exhibited on the last year were gathered; although the specimens of this were somewhat superior to those of last year, yet, thus far, your Committee see no reason to alter the opinion they have before expressed, of the unsuitableness of this variety to general cultivation in this vicinity. As, however, the tree is an upright, vigorous growing tree, ripening its wood well, it may be well for those who have them to make further trials of its quality before condemning it as worthless.

As the apple is one of the most, if not the most, valuable fruits of New England, a repetition of the remark made last year on a like occasion may not be out of place, that it is particularly worthy of the attention of cultivators, and that endeavors to produce from seed new varieties of superior quality, with properties, in some respects, different from such as we now possess, as ripening at different times, keeping in perfection till later in the season, &c., are worthy of encouragement.

Your Committee would not omit to mention here the very large and fine collection of specimens of fruits, sent to the Society by A. Leroy, of Angers, France. Many of them came to hand in fine order, and your Committee had the opportunity of inspecting several new pears, which they think will prove valuable additions to this fine fruit.

With these remarks, your Committee now submit their award of the prizes offered by the Society the past year:—

For the best and most interesting exhibition of fruits during the season, to John F. Allen, the Lowell plate valued at	\$20 00
For the second best, to Hovey & Co.,	12 00
A gratuity to William C. Strong, of	10 00
APPLES. —For best twelve summer apples, on or before the last Saturday in August, to Charles Stone, for Williams's Favorite,	
For the next best, to Josiah Lovett, 2d, for Red Astrachan,	4 00
For the best twelve autumn apples, on or before last Saturday in November, to J. B. Moore, for Hubbardston Nonsuch,	6 00
For the next best, to Josiah Lovett, 2d, for Drap d'Or,	4 00
For the best twelve winter apples, on or before the third Saturday in December, to J. B. Moore, for Baldwin,	6 00
For the next best, to John Gordon, for R. I. Greenings,	4 00
The Committee have also awarded a gratuity equal to the second	

prize (\$4) to Cheever Newhall and Joseph Barret, and the Society's Silver Medal to Cheever Newhall, for Ladies' Sweeting apples, and Mrs. N. A. Haven, for very fine sweet apples, presented by her on April 26th; also the Society's Bronze Medal to Bowen Harrington, A. D. Williams & Son, A. D. Weld, and S. R. Johnson, for apples exhibited by them.

APRICOTS.—For best twelve, on or before last Saturday in August, no prize awarded.

For the next best, no prize awarded.

BLACKBERRIES.—For best specimens, not less than two boxes, to

J. Lovett, 2d, ... \$5 00

For the next best, to G. Merriam, ... 3 00

And to C. E. Grant, the Bronze Medal of the Society.

CHERRIES.—For best specimens, not less than two boxes, to J. F.

Allen, for Elton, (forced,) 6 00

For the next best, to Otis Johnson, for Black Eagle, ... 4 00

The Committee also award to George Walsh, Galen Merriam, M. P. Wilder, Hyde & Son, J. Lovett, 2d, Hovey & Co., H. Vandine, F. Blake, A. D. Williams & Son, Anson Dexter, and W. Batchelder, the Bronze Medal of the Society as a gratuity.

CURRENTS.—For the best specimens, not less than two boxes, to

George Wilson, ... 5 00

For the next best, to Hovey & Co., ... 3 00

And a gratuity of the Bronze Medal, to J. Lovett, 2d, for specimens of the Gondouin Currant, and to Otis Johnson, for those of the White Dutch.

FIGS.—For the best twelve specimens, to J. F. Allen, ... 5 00

For the next best, to Hovey & Co., ... 3 00

GOOSEBERRIES.—For best specimens, not less than two boxes, to J.

Lovett, 2d, for Roaring Lion, ... 5 00

For the next best, to a contributor whose name is unknown, for gooseberries entered in the name of John Gordon, ... 3 00

GRAPES.—For the best specimens grown under glass, on or before first Saturday in July, to Dr. N. Durfee, ... 10 00

For the next best, to Hovey & Co., ... 7 00

Also a gratuity of \$7 to J. F. Allen, and of the Society's Silver Medal to Augustus Evers and W. C. Strong.

For the best specimens grown under glass subsequently to the first Saturday in July, to W. C. Strong, ... 10 00

For the next best, to Hovey & Co., ... 7 00

And the Society's Silver Medal, to M. H. Simpson.

For the best specimens of Isabella grapes, to C. E. Grant, ... 5 00

For the next best, to Hovey & Co., ... 3 00

For the best specimens of Diana grapes, to Hovey & Co., ... 5 00

For the next best, to E. C. Hitchings, ... 3 00

To Kendall Baily and J. Lovett, 2d, the Bronze Medal of the Society for fine specimens of Isabella grapes.

- MUSK MELON.**—For the best in open culture, on or before the last Saturday in September, to J. Lovett, 2d, for Christiansa, . \$5 00
 For the next best, to Hovey & Co., for Beechwood, . 3 00
- NECTARINES.**—For the best twelve specimens, to Stephen H. Perkins, for Lewis, . 6 00
 For the next best, to J. F. Allen, . 4 00
- PEACHES.**—For the best twelve specimens grown under glass, on or before the second Saturday in July, to J. F. Allen, . 6 00
 For the next best, to Otis Johnson, . 4 00
 With a gratuity of \$4 to W. C. Strong.
 For the best twelve specimens of open culture, to J. F. Allen, . 6 00
 For the next best, to C. E. Grant, . 4 00
 And a gratuity of \$4 to John Hill, and the Bronze Medal of the Society to J. P. Wyman, both for fine specimens of Crawford's late.
- PEARS.**—For the best collection not exhibited before this year, with a written description of the same. For this there was no competitor who came within the rules, neither for the second prize offered for same.
 For the best twelve summer pears, on or before the last Saturday in August, to Josiah Lovett, 2d, for Rostiezer, . 6 00
 For the next best, to M. P. Wilder, for Bloodgood, . 4 00
 For the best twelve autumn pears, on or before last Saturday in November, to Emery Bemis, for Louise Bonne de Jersey, . 6 00
 For the next best, to Samuel Leeds, for Duchess d'Angouleme, . 4 00
 The Silver Medal of the Society to S. Downer, Jr., J. F. Allen, M. P. Wilder and Henry Vandine; and the Bronze Medal to E. Cleaves, J. Dane, W. R. Austin, J. Stickney and S. Driver.
 For the best twelve winter pears, on or before the third Saturday in December, to J. Lovett, 2d, for Beurré Diel, . 8 00
 For the next best, to Henry Vandine, for Glout Morcean, . 6 00
 For the next best, to S. Downer, Jr., for Glout Morcean, . 4 00
- PLUMS.**—For the best specimens, not less than two boxes, to J. Lovett, 2d, for Green Gages, . 6 00
 For the next best, to H. Vandine, for Peach plum, . 3 00
 To O. Johnson for Green Gage, to J. F. Allen for Washington, and to J. Mann for Peach plums, the Bronze Medal of the Society.
- QUINCES.**—For the best twelve specimens, to Jonathan Mann, . 5 00
 For the next best, to Waldo Maynard, . 3 00
- RASPBERRIES.**—For the best specimens, not less than two boxes, to J. Lovett, 2d, for Knevet's Giant, . 5 00
 For the next best, to Cheever Newhall, for Knevet's Giant, . 3 00
 To S. Sweetser, the Bronze Medal of the Society.
- STRAWBERRIES.**—For the best specimens, not less than two boxes, to S. Downer, Jr., for Jenney's Seedling, . 6 00
 For the next best, to O. Johnson, for Hovey's Seedling, . 4 00

For the next best, to T. Rice, for Hovey's Seedling, . . . \$3 00
 A gratuity of \$3 to S. Walker, for specimens of his Seedling,
 and to G. Evers, for a display of thirty-two varieties.

PRIZES AWARDED AT THE ANNUAL EXHIBITION.

APPLES.—For the best twelve varieties, of twelve specimens each,
 to B. V. French, the Society's Plate, valued at . . . 20 00
 For the second best, to J. B. Moore, . . . 15 00
 For the third best, to J. Stickney, . . . 12 00
 For the fourth best, to John Gordon, . . . 8 00
 For the best dish of twelve specimens of one variety, to Silas
 Peirce, . . . 6 00
 For the second best, to J. Stickney, . . . 5 00
 For the third best, to J. Lovett, 2d, . . . 4 00
 For the fourth best, to J. B. Moore, . . . 3 00

PEARS.—For the best twelve varieties of twelve specimens, of one
 variety each, to J. Stickney, Lyman Plate, valued at . . . 20 00
 For the second best, to S. Downer, Jr., . . . 15 00
 For the third best, to M. P. Wilder, . . . 12 00
 For the fourth best, to G. Evers, . . . 8 00
 And a gratuity of \$3, for twelve fine varieties, to Hovey & Co.
 For the best dish of twelve specimens each, of one variety, to
 W. R. Austin, . . . 6 00
 For the second best, to J. F. Allen, . . . 5 00
 For the third best, to J. Richardson, . . . 4 00
 For the fourth best, to A. W. Stetson, . . . 3 00
 And the following gratuities for collections of pears, of \$8
 each, to M. P. Wilder, Hovey & Co., J. Gordon, S. Walker,
 J. Lovett, 2d, J. S. Cabot, Messrs. Winship and R. Manning ;
 and \$4 each to F. Burr, C. Newhall, A. D. Williams & Son
 and J. F. Allen.

ASSORTED FRUIT.—For the best basket of fruit, of various kinds,
 to Hovey & Co., . . . 10 00
 For the next best, to W. C. Strong, . . . 7 00

GRAPES.—For the best five varieties of two bunches each, to W.
 C. Strong, the Lyman Plate, valued at . . . 15 00
 For the next best, to N. Durfee, the Bradlee Plate, valued at . . . 10 00
 For the best two varieties, of two bunches each, to J. F. Allen, . . . 6 00
 For the next best, to Hovey & Co., . . . 4 00

PEACHES.—For the best dish, of not less than twelve, to H. Schim-
 ming, gardener to J. P. Cushing, . . . 6 00
 For the second best, to N. Stetson, . . . 4 00
 And a gratuity of \$4 to W. Bacon for a fine dish of peaches.

PLUMS.—A gratuity of the Bronze Medal of the Society, to J.
 Lovett, 2d, H. Vandine, and J. W. Gates ; and to Francis
 Marsh a Silver Medal of the Society, for Tomato Figs.

For the Committee, JOSEPH S. CABOT, *Chairman.*

REPORT OF THE COMMITTEE ON VEGETABLES,**AWARDING PREMIUMS FOR 1851.**

In submitting the following report, your Committee have the pleasure to say, that the vegetables exhibited through the season have been in quality fully equal to any of previous years. The quantity, perhaps, has not been quite so extensive as at some former seasons.

The Committee wish to refer the seedling potatoes, Nos. 14, 15, and 23, exhibited by S. W. Cole, and the seedling potatoes exhibited by Martin Davis, of Sterling, to the future committee for the Society's Gold Medal, as offered in the Society's prospective premiums subsequently to the year 1846.

The Committee beg also to report that, in their opinion, the value of the new seedling potatoes does not depend so much on the size or appearance, as on the quality for mealiness and solidity, which, in this latter, means freedom from water, smaller potatoes being often of better quality, in this respect, than those of larger size and fair appearance.

ASPARAGUS. —For the earliest and best, not less than three bunches, to J. Crosby, ...		\$3 00
BEETS. —For the best (pure blood beet,) during the season, not less than twelve roots, to J. B. Moore, ...		3 00
BROCCOLI. —For the best three heads, to J. Lovett, 2d, ...		5 00
BEANS. —For the best and earliest peck of string beans, to J. Nugent, ...		3 00
For the best and earliest Lima beans, not less than two quarts, to J. Gordon, ...		3 00
For the best and earliest variety of shell beans, to J. Crosby, ...		3 00
CABBAGE. —For the best Drumhead cabbage, during the season, not less than three heads, to A. D. Williams & Son, ...		5 00
For the second best, to J. Mann, Jr., ...		3 00
For the best Savoy cabbage during the season, not less than three heads, to J. Mann, Jr., ...		3 00
CARROTS. —For the best exhibited, to J. Mann, Jr., ...		2 00
CAULIFLOWERS. —For the best and largest, during the season, not less than three heads, to J. A. Kenrick, ...		5 00
For the second best, to J. Crosby, ...		3 00
CELERY. —For the best and largest blanched, not less than six roots, to J. Crosby, ...		5 00
CORN. —For the best and earliest Sweet corn, not less than twelve ears, to J. Crosby, ...		3 00
For the second best, to J. Mann, Jr., ...		2 00
CUCUMBERS. —For the best pair under glass, previous to the first Saturday of June, to T. Needham, ...		5 00
For the best and earliest of open culture, to J. Crosby, ...		3 00
Egg PLANTS. —The best display during the season, to F. Webster, ...		5 00
For the second best, to J. Mann, Jr., ...		2 00
LETTUCE. —For the best six heads, before the first Saturday in July, to J. Crosby, ...		3 00

POTATOES. —For the best and earliest peck, previous to August 1,	
to J. Crosby, ...	\$3 00
For the second best, to A. D. Williams & Son, ...	2 00
PEAR. —For the best and earliest peck in June, to J. Mann, Jr., ...	
	3 00
RHUBARB. —For the largest and best, previous to the first Saturday	
in July, not less than twelve stalks, to J. Lovett, 2d, ...	5 00
For the second best, to A. W. Stetson, ...	3 00
TOMATOES. —For the best and earliest, not less than one dozen, to	
J. Crosby, ...	3 00
VEGETABLES. —For the best display and greatest variety at the	
weekly exhibitions, during the season, to J. Crosby, ...	5 00
For the second best, to J. Mann, Jr., ...	3 00
For the best display and greatest variety at the annual exhibi-	
tion, to J. B. Moore, ...	10 00
For the second best, to F. Webster, ...	8 00
For the third best, to J. Crosby, ...	2 00
For the fourth best, to A. D. Williams & Son, ...	4 00
For any new variety of vegetables suitable for the table, and	
worthy of cultivation, other than seedling potatoes, to A. R.	
Pope, for Hybrid Sweet Corn, ...	5 00

PREMIUMS AND GRATUITIES AWARDED AT THE ANNUAL EXHIBITION.

VEGETABLES. —For the best display and greatest variety, to J. B.	
Moore, ...	\$10 00
For the second best, to F. Webster, ...	8 00
For the third best, to J. Crosby, ...	6 00
For the fourth best, to A. D. Williams & Son, ...	4 00
NEW VEGETABLES. —For a new variety of Sweet corn, to A. R.	
Pope, ...	8 00
GRATUITIES. —To J. B. Moore, for the best variety of turnips, the	
Society's Silver Medal.	
For Blood beets, the best, ...	5 00
For Squash peppers, ...	3 00
To A. McLennan, for Egg plants, ...	3 00
To A. R. Pope, for Old Colony Sweet corn, (a new hybrid,) the	
Society's Silver Medal.	
To J. Lovett, 2d, a special gratuity for Winter Crook-neck	
squash, raised in 1850, weighing 70 pounds, a silver cup, ...	10 00
To J. Mann, Jr., for Drumhead cabbages, ...	4 00
To Joseph Davis, for celery, ...	3 00
To A. Bowditch, for display of vegetables, ...	4 00
For Lima beans, ...	3 00
To T. Page, for Snake cucumbers, ...	2 00
To J. W. Brown, for Carolina Sweet potatoes, ...	2 00
To N. Stetson, for tomatoes, ...	3 00
To J. Lovett, 2d, for cauliflowers and broccoli, the Society's	
Silver Medal.	

To E. M. Richards, for squashes kept from 1850, in fine condition, ...	\$2 00
To F. Marsh, for Custard squashes, the Society's Silver Medal.	
To Messrs. Stone & Co., for beets and turnips, ...	1 00
To S. W. Cole, for display of Seedling and other potatoes, ...	10 00
For Connecticut Pie squash, ...	5 00
To J. Gordon, for display, ...	4 00
For large Lima and Saba beans, ...	3 00
To A. Hatch, for Seedling potatoes, ...	3 00
To J. Crosby, for squashes, ...	3 00
To B. V. French, for tomatoes, ...	3 00
To F. Webster, for cauliflowers, ...	2 00

GRATUITIES AT THE WEEKLY EXHIBITIONS.

To J. Mann, Jr., for Early Turnip beets, ...	3 00
To J. Crosby, for large Blood beets, ...	3 00
To E. P. Champney, for specimens of the first cucumbers, grown under glass, ...	2 00
To W. F. Walsh, for the first Early China beans grown under glass, ...	3 00
To Winship & Co., for fine rhubarb, ...	3 00
To J. A. Kenrick, for rhubarb, ...	2 00
To J. B. Moore, for Champion of England peas, ...	3 00
To S. W. Cole, for Seedling potatoes, Nos. 14, 15 and 23, ...	4 00
To J. Mann, Jr., for Skilling's fine Queen cabbage, a copy of Colman's European Agriculture.	
To W. J. Walch, for three varieties of Early fine cucumbers, a copy of the same.	
To M. Gordon, for two varieties of cucumbers, a copy of the same.	
To C. M. Furbush, for specimens of Peach Blow potatoes, a copy of the same.	
To M. P. Wilder, for Myatt's Linneus rhubarb, a copy of the same.	
To M. Davis, Seedling potatoes from a Nova Scotia variety, a copy of the same.	
To S. B. Morse, for Mammoth squashes exhibited in 1850, a copy of the same.	
To A. Bowditch, for Champion of England peas, a copy of the same.	

All of which is respectfully submitted, AARON D. WELD, *Chairman.*

HORTICULTURAL OPERATIONS

FOR JANUARY.

FRUIT DEPARTMENT.

The opening month of the year, in our rigorous climate, finds but little to do at the hands of the fruit cultivator, unless he have under his care houses for the growth of grapes, peaches, &c. Out-door operations are entirely

checked by the severity of the cold, and but little can be done to advantage.

Under glass, except where fruit is forced very early, there is also but little labor required in January. Even in greenhouses, where there are vines, if they have been pruned, washed and put in order, as they should be ere this, no further attention is necessary till they begin to grow in February.

Where grapes, or other fruit are forced early,—by commencing either in November or December,—now will be the time when the successful cultivator will be on the alert; for the sudden changes, extreme cold, or dull cloudy weather of long duration, render all such early forcing precarious, uncertain, and often attended with the partial injury or loss of the crop. A little delay or inattention is sure to lead to such a result.

GRAPES, in vineries, started in December, will now have broken their eyes, and will soon be in bloom. Every care should be taken that damp, during the period of blooming, does not injure or destroy the flowers; for this sometimes happens at this season, during a long continued spell of cold rainy, or snowy weather. Air freely in good weather. Do not keep up too high a night temperature; and guard against damp by seasonable fires kept on during the day, rather than by an increased temperature at night, as is often done.

Vines, in greenhouses, if from any cause left unpruned, should now be attended to, in order to give time for the wounds to heal. They will generally break by the middle of February.

FIGS AND PEACHES IN POTS, may now be pruned, and the wood washed with whale oil soap. Keep them in a cool cellar or shed, preparatory to their introduction into the house, in March.

SCIONS of fruit trees may now be cut, placing them in a cool place, with the ends inserted in earth.

FLOWER DEPARTMENT.

The worst month of the winter season has passed, and with the return of longer days and a more powerful sun, plants will soon show signs of increasing vigor and growth. The extreme cold of December has required a large amount of heat to ward off frost, and this, too, during the dull and darkest days of winter; and the earliest opportunity should be taken to air freely and harden off the etiolated growth, which a strong fire heat is sure to develop.

Now is the proper time for the ambitious gardener to look over and lay out his plans for the whole season; by doing this now, and making a memorandum of what should be done, something like system is established, and the work not only goes on more rapidly and with less labor of mind, when the busy season commences, but many things are put under way, which otherwise might be overlooked. A word to the wise, &c.

The greenhouse and conservatory, to be kept in their greatest beauty, should always have a stock in reserve, both to keep up a variety, as well as to afford a long continuance of bloom. Cestums, Lauristinus, and similar woody plants, as soon as done flowering, may be partially pruned in, and placed away under the stage, to be removed to the open air, in April. Au-

tumn flowering oxalises should be replaced with spring flowering ones. Roses, now in the height of bloom, should be succeeded by a fresh supply from the cold frame; and many other plants may be placed away under the stage, when out of bloom, and their places filled with others which will afford a full supply of flowers.

CAMELIAS will now be coming into full bloom, and will now require but little attention. Syringe freely in good weather, particularly after a strong fire heat, to counteract the effect of a dry atmosphere. Water occasionally with manure water or liquid guano.

PELARGONIUMS will now show signs of more activity, and will require some care, if fine, dwarf, bushy specimens are wanted. Tie out all the lateral branches to stakes, and if they require repotting, shift them at once into the flowering pots. Plants wanted for a succession or blooming late, should have the ends of their shoots nipped off. Keep near the glass, in a light, cool, airy part of the house.

JAPAN LILIES for blooming, in pots, should now be attended to; all that show signs of pushing, should now be repotted; the others will answer for a succession. Young seedlings, potted off singly, will make larger bulbs than if grown together in the seedling pots.

CINERARIAS may now be repotted; if already large specimens, they should be shifted for the last time.

CHINESE PRIMROSES, growing vigorously, may now have a shift into larger pots.

ACHIMENES may be potted now for early blooming, placing them in the warmest part of the house.

PANSY seeds should be planted now, for early blooming in the borders, in May.

ROSES, taken up out of the open ground in October, should now be pruned, and placed in a good situation in the greenhouse.

SCHIZANTHUSES, nemophilas, India pinks, allyssum, and similar annuals, for winter blooming, should be shifted often, and not be allowed to become pot-bound.

AZALEAS, now showing bloom, should be more liberally watered.

STEPHANOTUS FLORIBUNDUS should now be pruned in, and started into growth; other summer climbing plants may have the same treatment.

CUTTINGS, of all such plants as are suitable for bedding out, should now be propagated—such as scarlet geraniums, petunias, heliotropes, verbenas, cupheas, salvias, &c., &c. Early grown stock succeeds better when removed into the border than late propagated plants.

FUCHIAS, intended for large specimens, should now be repotted, pruned in, and started into a new growth.

Look over all the plants carefully now, and top dress the soil; clean the pots; pick off all decayed or yellow leaves; turn them round once a fortnight; stake up where required, and preserve neatness in every part of the greenhouse or conservatory,—without which they afford little enjoyment to the possessor. The temperature should range from 40° to 45° at night, and 50° to 70° during the day.

THE MAGAZINE OF HORTICULTURE.

FEBRUARY, 1852.

ORIGINAL COMMUNICATIONS.

ART. I. *The Importance of Cleanliness to Plants.*

By the EDITOR.

FEW persons, we apprehend, are aware of the great importance of cleanliness to plants, and the influence which it exerts upon their health, vigor, and growth. Indeed, if we were to judge from the appearance of plants grown in many of our greenhouses and conservatories, we should suppose there was, in reality, no use in paying any attention to cleanliness, and that, beyond a liberal supply of water at the root, there was as little need of any upon the foliage, unless for the simple purpose of neatness, as if water formed no element of vegetable growth. There is no doubt but that the foundation of disease in many plants, cultivated under glass, can be traced to the neglect of cleanliness of their foliage; and that camellias, oranges, daphnes, and similar broad-leaved evergreen shrubs, are kept in an unhealthy state for want of that ablution which is so necessary to the vigor and growth of every living plant. For when placed out of the reach of that great natural element of cleanliness, rain, it is as necessary that plants should be artificially kept in a clean condition, as that they should be supplied with air or light.

"If as much washing were bestowed, in London," says Dr. Lindley, "upon a pot plant as upon a lap-dog, the one would remain in as good condition as the other. The reasons are obvious. Plants breathe by their leaves; and if their

surface is clogged by dirt, of whatever kind, their breathing is impeded or prevented. Plants perspire by their leaves; and dirt prevents their perspiration. Plants feed by their leaves; and dirt prevents their feeding. So that breathing, perspiration, and food, are fatally interrupted by the accumulation of foreign matters upon leaves. Let any one, after reading this, cast an eye upon the state of plants in sitting rooms or well-kept greenhouses; let them draw a white handkerchief over the surface of such plants, or a piece of smooth white leather, if they desire to know how far they are from being as clean as their nature requires."

The importance of more attention to the cleanliness of plants has been forcibly brought to mind by reading an account of the experiments of M. Garreau, on the perspiration of plants; an abstract of which was given in the *Gardeners' Chronicle* of last year. They show, in the most satisfactory manner, that one of the greatest sources of a healthy vegetation is a clean foliage; and that where this cannot be effected by rain, it is essentially necessary that it should be accomplished at the hands of the cultivator.

M. Garreau's experiments, it will also be noticed, confirm the opinions of many amateur and practical men, that soap and water are of more effect in enabling the leaves to carry on their absorptive powers than clear water alone. M. Garreau found this to be to the extent of nearly one half. A fig leaf, which had been washed with soap, absorbed 90 parts, while, after a simple drenching with water, it took up only one half.

The result of all these experiments show that all plants, when housed up for six months, as they are in our climate, require not only repeated syringings during that time, but they require even more if we would keep them in the most robust condition. In particular, should camellias, oranges, daphnes, and similar broad-leaved plants, be washed once or twice in the winter with soap and water, each leaf receiving a careful sponging on its upper as well as under surface. If this, with due attention to a moist atmosphere and watering, was attended to, we should hear less complaint of sickly collections of plants:—

A fortnight ago we briefly mentioned M. Garreau's very curious experiments on the perspiration of plants; we shall now redeem the promise we then gave, by describing his experiments more in detail, so that our readers may be in a position to judge for themselves of the value of his conclusions. M. Garreau's object, in the first place, was to ascertain the ratio in which the cuticle and covering membrane of plants is able to absorb or give out gaseous matters, what differences exist between the same membrane on the various parts of a given plant, and how these differences are modified by circumstances. The first series of experiments were made to measure the real porosity of the epidermis, by ascertaining the rate at which endosmosis takes place through it, between various dissimilar fluids. Small portions of the epidermis of different plants, carefully prepared, were cemented at the end of glass tubes; a weak solution of sugar was then poured into the tube, the lower end of which was thus closed by the film of vegetable membrane, and the tube was then immersed for a given number of hours in some other liquid, after which the quantity of the latter, drawn through the membranes by endosmosis, was carefully measured.

The result of these experiments showed that the epidermis of old leaves permitted little or no endosmosis, whilst that of young leaves allowed it to a very sensible degree; a fact apparently caused by the considerable quantity of oleaginous matter, which covers and impregnates the epidermis of the former. On comparing together the epidermis taken from different parts of the same leaf, it was found that it varied considerably in its relation to this passage of fluid; the epidermis of the nerves, and of the lower part of the leaves, nearest to the leaf-stalk, being those which permitted it most freely. An epidermis, which does not allow of endosmosis in its natural state, becomes permeable to liquids, when it has been washed with ether, solution of soap, or in some cases even with distilled water alone. These effects are quite independent of the action of the stomata, and may be observed quite as well with a membrane wholly destitute of

those openings. The fact that the epidermis of leaves will not permit the passage of water in their natural state, but will do so when the greasy matter which coats their surfaces is artificially removed, may be proved by immersing a faded leaf for some hours in water, keeping the whole of the leaf-stalk out of the fluid, it will absorb little or no water; but if it has been previously carefully washed with soap in distilled water, it will then be able to absorb a very notable quantity of the water in which it is subsequently immersed. This absorption is found to be quite as great in those leaves which are furnished with very few stomata, as it is in those which have many, provided the washing be carefully conducted, and all pressure avoided, which would cause the forcible introduction of water through the stomata.

The chief conclusions to which M. Garreau arrives, as the results of these and a number of similar experiments, are as follows:—Firstly, that the cuticle of plants possesses the power of allowing endosmosis to take place whilst the parts are young, but that it loses it as they grow old. Secondly, that this power is in proportion to the quantity of oleaginous matter which exists in the cuticle, being greatest in those membranes which contain least fatty matter, or in which it has been artificially removed by washing. Thirdly, that the cuticle which covers the upper surface of the nerves, and particularly that which clothes the axillary part of the leaf-stalk, is that which permits the most abundant endosmosis. Fourthly, that the epidermis sometimes interferes with this power of the cuticle, because plants which have no epidermis permit endosmosis to a remarkable extent; and young bark which has this organ, permits much less endosmosis than that which is without it: and lastly, that if simple washing with distilled water is able to increase the absorbent power of leaves, it is plain that rain water must produce the same effect.

These results are certainly highly interesting, and unquestionably point to a new and hitherto unsuspected office of rain; they show the importance of keeping the surface of plants clean, and lead to numerous useful hints to the prac-

tical gardener. We must, however, confess that we do not feel altogether satisfied with some of the experiments, because we are not quite sure that it is fair to compare the endosmosis or passage of water through a membrane, with the gaseous transpiration which would occur through the same membrane; because the conditions most favorable to the one are not necessarily also always those best suited to the other. The experiments of the author do not bear upon this question; he merely shows that such vegetable tissue is really permeable to carbonic acid, but does not by direct experiment prove that this permeability is increased in any definite ratio by washing. The author endeavors to prove that carbonic acid gas is able to pass through the cuticle of plants which have no stomata, by referring to the growth of water-plants, which are without them; and by an experiment in which a portion of lime-water was enclosed in a tube, the end of which was covered with a small piece of such a membrane, and the tube then plunged for some hours in an atmosphere of carbonic acid; under these circumstances the gas penetrated the membrane and rendered the lime-water turbid. This experiment, however, is by no means quite unexceptionable, because the question is not whether pure carbonic acid will pass through the membrane and mix with common air on the other side, but rather, whether common air, containing 1 per cent. of carbonic acid, will so pass through to mix with air containing no carbonic acid. It is evident that the gradual filling up of the pores with oleaginous or resinous matter, which destroys the power of permitting endosmosis, does not necessarily also prevent the cuticle from absorbing carbonic acid; and, indeed, M. Garreau says this himself, for he observes that a cuticle, which has lost the power of transmitting water, may still be permeable to that gas.

The second division of the paper contains a very valuable and careful series of experiments on the evaporation of water from the two surfaces of the leaf, and on the emission of carbonic acid gas from leaves. In those experiments leaves growing on healthy plants were selected, and a circular portion enclosed between two closely fitting glass receivers, so

arranged that the leaf formed the division between the two glasses—the upper surface was in the one glass, whilst the under surface of the leaf was in the other glass. The quantity of moisture given off was ascertained by placing in each glass a weighed portion of dry chloride of calcium, which being hygroscopic, or very greedy of moisture, would absorb all the vapor as fast as the surface of the leaves gave it out.

The result of these experiments is, that the lower surface of the leaves gives off, from an equal quantity, three times as much as the upper surface does; sometimes the proportion is as high as five to one; and the ratio is quite independent of the position of the leaf itself. This exhalation of water has some connection with the number and size of the stomata, but is by no means wholly dependent on it, as there is evidently a large quantity of water given off independently of them. The evaporation is most abundant along the course of the nerves, and in those parts of the epidermis, on which there is the least quantity of oily matter.

As by the experiments already mentioned it has been shown that the transmission of water is greatly checked by the accumulation of oil and resin in the epidermis, it might naturally be expected that the perspiration or evaporation of water would likewise be diminished by the same cause. The experiments, made with a view of ascertaining the correctness of this supposition, consisted chiefly in exposing leaves of different plants, the exact weight of which is known, to the air, and by subsequently weighing them again, observing the quantity of water which they had lost, and consequently the rate at which they were able to give off water. It was found in every case that cleansing, or washing the leaves with soap and water, increased their power of evaporation to a very considerable extent.

The emission of carbonic acid by the leaves of plants, under certain conditions, was first ascertained by Saussure; but since his first experiments, made half a century ago, no one has attempted to measure exactly the quantity of this gas which leaves give out; the careful and exact experiments of M. Garreau on this point are, therefore, of great value.

He employed the same sort of apparatus for this purpose, which has already been mentioned, as being used in estimating the evaporation of moisture from the upper and lower surfaces of leaves; namely, two circular glass vessels, which being applied respectively to the upper and under sides of the leaf, enclosed a circular disk of the leaf between them, in a way very convenient for the purposes of the observer. In these experiments, however, in place of using dried chloride of calcium, a portion of lime-water was used, and the chalk formed in it by the absorption of carbonic acid subsequently weighed. The general results of these experiments are, that in the shade or diffused daylight, no carbonic acid is evolved by the leaves; that in the night it is given out by both surfaces, but in greater quantity from the lower than from the upper surface; and that when exposed to the influence of a very bright and hot sunshine, so that the rate of evaporation is very rapid, carbonic acid is likewise given off. In the latter case, the quantity of gas thus evolved is comparatively small, and by far the larger portion of it is given off by the lower surface of the leaves. It also appears that the proportion of carbonic acid given off by different leaves, bears a closer relation to the number and size of the stomata than the proportion of water which the leaves are able to evaporate does.

All these experiments of M. Garreau teach us this fact, that under ordinary circumstances the growth of a plant causes the formation and deposition of certain substances, which in time fill up its pores, check perspiration, and consequently interfere with the nourishment and further growth of the plant. On the one hand, there can be little doubt that in very hot weather these matters must sometimes be useful in checking extreme perspiration, and in diminishing for the time the powers of the plant to absorb too much food from the air, or to part with water and carbonic acid too rapidly. On the other hand, the effect of rain must be to wash away a portion of these deposits, and so to favor the perspiration and consequent growth of the plant. Lastly, as the more heat a plant is exposed to, the more it perspires,

and the faster it grows, the greater will the tendency be to fill up its pores ; so it follows that when plants are exposed to great heat in a close house, and not in any way artificially washed or syringed, they are placed in an unnatural condition, and the very care of the gardener defeats, to some extent, the object which he has in view.

ART. II. *Pomological Gossip.*

THE capital report of Mr. Cabot, the Chairman of the Committee on Fruit of the Massachusetts Horticultural Society, for 1851, (now President,) in our last number, and the anticipated *resumé* of everything new among fruits, which he has kindly promised us in season for our next, renders it unnecessary for us now to refer to many of the varieties, which will be particularly noticed by him. There are several new pears, which have fruited in our collection the past year, of much merit, and such as he omits in his article, we shall give an early account of ; and in the course of the volume, full descriptions with outlines of some of the most remarkable.

DR. LINDLEY'S OPINION OF AMERICAN FRUITS.—We have, from time to time, had occasion to notice the asperity with which Dr. Lindley speaks of every fruit or plant of American origin ; and though it matters but little what his opinion may be, tinctured as it is by prejudice, or a determined will to traduce everything American, it may gratify our readers to see occasionally what he does say, when he condescends to notice a country “little visited by Europeans”!!

It appears that Mr. J. Shed Needham, of Danvers, Mass., sent one of his white, yellow or mulatto colored blackberries, as a kind of *rara avis*, to the London Horticultural Society, as one of the wondrous fruits of this Western Continent, and with it the statement, which went the rounds of our newspaper press, last summer, as to its tremendous qualities, &c. The Present is made the subject of the leading article

in the *Gardeners' Chronicle*, of the opening number for 1852, which reads as follows:—

“Speculative gardeners have long expected to find some useful hardy novelty among the wild fruit-bearing trees of *countries little visited by Europeans*. If the old world has given peaches and apples, and cherries and strawberries, why may not the *new world produce good fruits* of some other race? Undoubtedly no reason to the contrary is apparent, but it so happens, that up to the present day, we are without an instance of such a discovery having been made; and with the two exceptions of the American strawberry and cranberry, (for the grape vines of the United States *do not deserve the name of useful fruits*,) their Osage Orange is an *orange only in appearance*, and their mulberries, *plums*, and other small berries, would only be admitted to the desert of an Indian savage.” (The italics are ours.)

Why Doctor, dear Doctor, you dont say so? Are you sure the Osage Orange “is an orange only in appearance?” Where did you learn this? Are you certain that it is not considered a finer dessert fruit than the orange of Havana? If we were to tell you it was better, would you believe it? If you ever visit our country and sit at the *table d’hote* of the Revere or Astor, perhaps you will be surprised to find it really is very much unlike an orange, though “an orange only in appearance.”

As to the *grape vines* of the United States, what will Mr. Longworth say to your opinion of them? What will our friend Dr. Underhill say of your opinion of his Croton Point Isabellas? Perhaps you will not admit that the New Yorkers, who devour them BY TONS, know what a “useful fruit” is. Doubtless they don’t. And finally, our *plums*, according to your estimate of a fruit, “would only be admitted to the dessert of an Indian savage.”

Perhaps you have no better knowledge, Doctor, of our plums than you have of our oranges; and, therefore, no fault can be found with your opinion of them. We will be candid, however, and say that American plums very much resemble the fruit known by the same name in England. If

our recollection serves us, Mr. Thompson has described two of these species or varieties, in a *Journal* published by the London Horticultural Society, one called the Washington, and the other the Jefferson; in honor, we presume, of George Washington and Thomas Jefferson, Americans, whom you may have heard of. There are many other sorts of equal merit, but in a country "so little visited by Europeans," they may not be known to you. We will name a few, and would remark that they are nearly as good as the English varieties, called the Diamond and Victoria. They are as follows:—McLaughlin, Imperial Gage, Duane's Purple, Yellow Gage, Albany Beauty, Columbia, Emerald Drop, Huling's Superb, &c.

In regard to the peaches, apples, cherries and strawberries, which the "old world" *alone* appears to have produced, it might not be out of place to remark that our catalogues do contain *six or eight* kinds of peaches, *four or five* of apples, *three or four* of cherries, and *one or two* of strawberries, of American origin, which are said to be eatable, if nothing more. And now, trusting that we have given you, Doctor, some information regarding the kinds of fruit raised in this country, so "little visited by Europeans," we hope you will not misrepresent us again, especially to traduce a fruit we esteem so highly as the Osage Orange,—by saying "it is an orange only in appearance."

After noticing Mr. Needham's account of the White Blackberry, which we have alluded to, we find the following valuable memoranda concerning its culture, &c., which may be important. Mr. Needham remarks that it is propagated "by offsets"! that it bears on "last year's canes"! that the best manure "is ashes leached or unleached"! that it branches out "like a pine tree"! that it is sweeter than the common blackberry"! that it has a "fine mulberry flavor"! and that it is of "the color of the Sweetwater grape"! In fine, if we would believe Mr. Needham, it is, as Monsieur Boukhout described a new pear to Mr. Rivers, after exhausting the vocabulary of expletives, a "devil of a fruit!"

ART. III. *On the Cultivation of the Strawberry in Pots.*

By H. BOCK.

OF all the fruits that delight our fancy, gratify our festive appetites, or please the eye, there is none that is so easily accessible, as regards the expense of growing, as the strawberry. But, as there appeared in your December number, an essay on the culture of this fruit in beds, in the open air, it is my intention now only to treat upon the manner of forcing in pots. I immediately proceed to detail my method of cultivation. First, the plants from which I make my selection, have been growing in the open ground at least one year; in the summer, as soon as I can, I obtain young plants from laterals, or runners,—which will be in June or the early part of July,—by placing a three-inch pot, filled with the compost I always use, viz.,—good mellow, loamy turf, mixed with eight or ten per cent. of super phosphate of lime, or burnt bones,—underneath each young plant, with a stone upon the surface, for the double purpose of fixing the plant and keeping the soil moist; at the same time stopping the runner a little beyond the plant, so that the sap may reach the plant and no further, giving occasional waterings.

Within a fortnight they are generally sufficiently rooted to bear separation from the parent plant, with about one foot of the runner attached, which serves partly to sustain the plant until it takes nature wholly upon itself. Each plant is then potted singly into an eight-inch pot, folding the runner attached beneath the soil, and placing them in a shaded situation for two or three days. Next, they are arranged in beds, four feet wide, the outside rows made up to the top of the pots, with coal ashes, or similar material, for the purpose of retaining a uniformity of moisture throughout, watering attentively, with liquid manure, whenever they appear dry.

In this situation they remain until the middle of September, when they are set in a single row, if possible, along a south wall, as at this stage all the light and sun that can be obtained are essentially necessary in ripening the buds, or,

as physiologists would term it, perfecting the organs of fructification. Probably, by the beginning of November, the frost will be so severe as to require them to be removed to their winter quarters, which is to plunge them in a dry border, up to the rim of the pots, covering with litter, for the sake of preserving the pots in severe frosts.

About the middle of December I have generally begun forcing a few, by giving them a top-dressing with the same kind of soil as used for potting, sprinkling a little charcoal uppermost, with the idea, "probably," of its becoming soluble. They are then placed in houses or pits, as near the glass as possible, starting with a temperature of 40° heat by night, reaching 45° during the day, for the first fortnight; afterwards raising it progressively to 50° during darkness and 75° by light, maintaining a moist atmosphere up to the time of ripening, watering slightly, until vegetation has started vigorously, when they must be supplied liberally with the draining of the dung-hill, in a fermenting state, considerably diluted with soft water, of the same temperature as the atmosphere surrounding the plants. As soon as the flower stems have reached their full length, tie them up, each stem to a neat stick. When the anthers have expanded, give the pots a shake to disperse the pollen, and complete impregnation; if insects should appear, syringing and fumigating with tobacco, will be necessary, but avoid it if possible, which can be done by a due regard to atmospheric moisture.

It may not be out of place to mention here, that I have seen great benefit arise from waterings with solutions of ammonia fixed with a proportionate quantity of sulphuric acid, that is, to the ammonia add one half sulphuric acid, diluting the whole in two thousand parts rain water. But as the excrements of animals contain both the organic and inorganic substances required by vegetable life, it will be found all that is necessary to make up the entire mass, "*exclusive of the gases.*"

The kind of strawberry I have found the most prolific, is Keen's Seedling, producing from 40 to 50 full grown and average sized fruits upon each plant; the British Queen, with

8 to 10 large berries, of a pleasing acid flavor. Strawberries of American origin, I have not yet had the opportunity of trying, so as to mention the kind best adapted for forcing. Plants started in December, will ripen their fruit the latter end of March, if the weather proves anywise favorable.

Watertown, Mass., December, 1851.

ART. IV. *Notes on Greenhouse Plants, Soil, Potting, Watering, &c.* By HORTUS.

SOIL.—The exact specific relation that exists between the soil and its different vegetable productions, is a subject upon which scientific men have had much controversy, and perhaps there is no question in the whole range of agricultural chemistry and geology of more difficult solution. Since the application of science to these subjects, most important truths have been discovered, errors in practice corrected, and causes of failure made clear, true principles deduced, and results arrived at, which were hitherto considered unattainable; but the difficulty of arriving at principles of universal applicability becomes apparent when we consider the various influences to which the agents of vegetation are subjected, the modifying effects of climate and atmosphere, the different combinations of the elements constituting the soil, and above all, the want of knowledge concerning the laws of vitality, and the influence that vegetable life has in making these elements subservient to its use.

When the ashes of a plant are analyzed, and the exact quantities of its different constituents clearly ascertained, it forms a pretty safe index to the kind of soil best adapted to its growth, so far as inorganic matter is concerned. Experiments have shown, however, the difficulty of establishing accurate data by this means, from the accommodating nature of plants, as their constituent ingredients vary according to the nature of the soil in which they have been grown; and

if the substances necessary for the perfection of one or more parts of a plant predominate in the soil, its principal development will take place in that direction. So also with an analysis of the soil; the chemist, by the aid of fire and other energetic agents, may show us what actually exists in the soil, but this is not enough for practical purposes; we must also know whether the various substances are in such a state of combination as to be readily accessible to the roots of plants, for it has been proved that a soil may possess abundance of all the ingredients required by any particular crop, and yet be unproductive, owing to their not being in a sufficiently soluble form to be directly available for the purposes of vegetation. The roots of plants can take up and carry into circulation only such matters as are at the time either gaseous or soluble.

Scientific writers dwell much upon the chemical constitution of soils, but practical experience teaches us that their mechanical texture is of equal importance. The physical condition of the soil is seldom connected with the analysis of the chemist, but in practice much depends on this property. So much depends upon the decomposing power of the atmosphere, that its presence or absence in a soil is sufficient materially to affect its productive capabilities. The soil is a great laboratory, in which, by the aid of air and moisture, chemical changes are constantly going on, preparing the different kinds of food for admission to the roots. Exclude air, and this preparation is stopped; the most valuable ingredients, although present, may now remain inert, and useless to vegetation, because not in a fit condition to be absorbed by the roots of plants.

A practical illustration of the advantages derivable from a due observance of the state of the soil, is afforded by the improvement in the cultivation of plants in pots during the last twelve years. Previous to this, it was almost a universal practice to render all soils for potting as finely divided as possible, and its value was reckoned in proportion as it attained this condition. Various kinds of soils and manures were collected and mixed with mathematical exactness, but

all underwent a rigid manipulation of division. Subsequently a more enlightened system has prevailed. Soils more simple in character are now employed, but these are arranged so as to allow unimpeded access to permeable gases, and the results are beyond all comparison superior. A finely divided soil becomes a close compact mass after the first application of water, offering a great resistance to roots, and preventing the free admission of air, which is one of the most necessary supports of vegetable life, and as much so to the roots as to the tops. On the contrary, in a porous soil the air finds ready access; water, when applied, percolates freely; air immediately follows, and the roots can ramify and extend at pleasure.

In my notes on greenhouse plants, in the last volume of the magazine, (of which this paper is a continuation,) *turfy loam* was recommended as a suitable soil for their growth. That is, a soil composed of turves that have been cut from an old pasture field, and laid in a heap for a certain period, say from two to three months, until the natural vegetation is partially decomposed, but not long enough to decompose the fibre, this being the very ingredient that renders it valuable for potting purposes. In selecting these turves, preference should be given to old grass lands that have been many years undisturbed. It should not be cut deeper than the matted roots of the grasses, and should stand to be thrown about without breaking; this it will do if full of vegetable fibre. It is valuable just in proportion to the amount of fibrous matter it contains, and for all purposes of plant growing is superior to any other combination of soils, both in physical and chemical properties. Its open and porous nature renders it capable of producing and absorbing a great amount of food for plants; the oxygen of the air having free access to it, the organic matter which it contains is slowly decomposed, and fitted for absorption. When water is applied it passes freely through every part of it; its numerous pores are immediately filled with air which hold the moisture in suspension; consequently less water is requisite, and the nutritious elements of the soil are not washed out with unnecessary supplies of

moisture. Considerable experience in plant culture points to the fact that in a turfy soil, such as here recommended, all kinds of greenhouse plants can be grown to greater perfection than in any other. Plants cultivated in it are characterized by the deep healthy hue of the foliage, short jointed, well ripened wood, and a profusion of large and well colored flowers. This arises from the circumstance that there is no excess of food at any period of the plant's growth; hence its development is regular. The energies of the plant are not expended in making an over-luxuriant growth of leaves and branches when young, as is the case when the soil is so rich as to cause excessive growth, which retards maturation of the wood, induces disease, and is diametrically opposed to the production of flowers and fruit.

In preparing this soil for potting it should be chopped with a spade to reduce it sufficiently; this, of course, will be regulated by the nature of the plants and size of pots to be used. If the basis of the soil is tenacious, it will be necessary to use a liberal admixture of correctives. Charcoal, broken bones, pebbles, sand, or small stones of any description, are available for this purpose. The former of these is a valuable substance to mix in soils, from its capabilities in absorbing moisture, and the various gases that come in contact with it, all of which are again given out to the roots. Bones are also of great utility when used in this manner, as they slowly decompose, and supply both organic and inorganic substances. These correctives can be regulated in quantity to suite any description of plant. Hardwooded and slow growing plants, which may remain for years in the same pot, should be well supplied with them in the soil, to prevent adhesion after the vegetable fibre becomes decomposed, and ensure a healthy circulation of gases under all circumstances. Strong growing plants will not require much addition in this respect, as they soon occupy the pots with roots, but all are benefited by a liberal allowance of charcoal and bones.

December 27, 1851.

(To be continued.)

ART. V. *Weigelia rosea and Forsythia viridissima, two new and beautiful, hardy flowering Shrubs.* By the EDITOR.

THE mission of Mr. Fortune to China, as collector for the London Horticultural Society, though at one period thought to have been attended with no very great success, has, however, proved to be one of the most successful explorations; second, perhaps, only to that of the lamented Douglas to the Northwest coast. Several of the things which Mr Fortune at first sent home, proved to be mere weeds, and created an unfavorable impression of his botanical researches after new plants. But the *Weigelia rosea*, the *Forsythia viridissima*, the *Daphne Fortunei*, *Jasminum nudiflorum*, the White *Wistaria*, the new Azaleas, not to mention the *Cryptomeria japonica*, and other fine trees and shrubs, show that time was only needed to develop the beauty and the value of his acquisitions.

To our American collections his discoveries have been especially valuable; for several of the plants have been already proved perfectly hardy, and there is no doubt others, not yet fully tried, will prove so. In particular we may mention the *Weigelia* and *Forsythia*, two of the most beautiful, early flowering hardy shrubs which our collections now contain. We have heretofore noticed them on several occasions, and they have become so well known as to be found in many choice collections, though they have not been introduced long enough to bloom freely; but having flowered finely in our garden, we now have the pleasure of presenting an engraving of each:—

WEIGELIA ROSEA.

The following account of the *Weigelia* was communicated by Mr. Fortune in the *Journal* of the Horticultural Society:—

“When I first discovered this beautiful plant it was growing in a Mandarin’s garden, in the island of Chusan, and literally loaded with its fine rose-colored flowers, which hung in graceful bunches from the axils of the leaves and the ends of

the branches. The garden, which was an excellent specimen of the peculiar style so much admired by the Chinese in the north, was often visited by the officers of the regiment who were quartered at Tinghae, and was generally called the Grotto, on account of the pretty rock-work with which it was ornamented. Every one saw and admired the beautiful



Fig. 4. *Weigelia rosea*.

Weigelia, which was also a great favorite with the old gentleman to whom the place belonged. I immediately marked it as one of the finest plants of Northern China, and determined to send plants of it home in every ship until I should hear of its safe arrival.

"*Weigelia rosea* is unknown in the southern provinces of China, and therefore I have every reason to suppose that

it will prove hardy, or nearly so, in England; but if not, it will make a first-rate greenhouse plant, and take its place by the side of the beautiful azaleas and camellias of its own country. I never met with it in a wild state on the Chinese hills, and it is, therefore, just possible that it may have been originally introduced from Japan; this, however, is only a conjecture. In the north of China, where the plant is found, the thermometer sometimes sinks within a few degrees of zero, and the country is frequently covered with snow; and yet in these circumstances it sustains no injury.

"It forms a neat middle sized bush, not unlike a *Philadelphus* [syringa] in habit, deciduous in winter, and flowers in the months of April and May. One great recommendation to it is, that it is a plant of the easiest cultivation; cuttings strike readily any time during the spring or summer months, with ordinary attention; and the plant itself grows well in any garden soil. It should be grown in this country as it is in China; not tied up in that formal way in which we frequently see plants which are brought to our exhibitions, but a main stem or two chosen for leaders, which in their turn throw out branches from their sides, and then, when the plant comes into bloom, the branches, which are loaded with beautiful flowers, hang down in graceful and natural festoons. It was a plant of this kind which I have already noticed as growing in the Grotto-garden in the island of Chusan; and I doubt not that plants of equal beauty will soon be produced in our gardens in England."

This is Mr. Fortune's description, and it is scarcely necessary for us to add, that it is not overdrawn; and it is gratifying to state, that his supposition that it would prove hardy in England is not only true, but it is as hardy in our own climate as a berberry bush. Small plants last year, standing in a cold, damp locality, did not have so much as a single shoot injured. It is one of the richest acquisitions to our early flowering, hardy, ornamental shrubs. Our drawing (*fig. 4*) shows the size and form of the flowers, and their habit of flowering. It blooms in May.

FORSYTHIA VIRIDISSIMA.

Mr. Fortune discovered this fine shrub in the north of China; and sent it home among the first lot of plants which he shipped from Shanghai. He gives the following account of it:—

“It is a deciduous shrub, with very dark green leaves, which are prettily serrated at the margin. It grows about eight or ten feet high, in the north of China, and sheds its leaves in autumn. It then remains dormant, like any of the deciduous shrubs of Europe; but is remarkable for the number of large prominent buds, which are scattered along the young stems, produced the summer before. Early in spring, these buds, which are flower buds, gradually unfold themselves, and present a profusion of bright yellow flowers all over the shrub, which is highly ornamental.

“I first discovered it growing in the same garden with *Weigelia rosea*, which, I have said in another place, belonged to a Chinese Mandarin, in the island of Chusan, and was generally called the ‘Grotto Garden’ by the English. Like the *Weigelia*, it is a great favorite with the Chinese, and is generally grown in all the gardens of the rich, in the north of China. I afterwards found it wild, amongst the



Fig. 5. *Forsythia viridissima*.

mountains of the interior, in the province of Chekiang, where I thought it even more ornamental in its natural state, amongst the hedges, than when cultivated in the fairy gardens of the Mandarins."

Mr. Fortune supposed it might prove hardy in England, but advised cultivators to winter it in frames or greenhouses until a trial had been made of its hardiness. It has now been growing in our collections three years, and it has proved to be as hardy in our climate as the azalea. It is a rapid and vigorous grower, and the first year the young half-ripened shoots are partially killed by the winter; but the second season, when the wood is stronger and well ripened, it is perfectly hardy, and the prominent buds, which are formed early in the autumn, in profusion at the axil of every leaf, expand as early in the spring as the double flowering almond, before a single leaf makes its appearance; and as they are of a deep yellow, pendent, and about the size of the Halesia, they form the gayest ornaments of the shrubery in April and May, when so few flowering shrubs expand their blossoms. The leaves are oblong, lanceolate, serrated near the point, of a deep rich green tint, and emit a slight balsamic odor. It is one of the finest acquisitions to our limited number of early flowering shrubs. Our engraving (*fig. 5*) gives a handsome representation of its habit of blooming, the size of the leaf, &c. It grows freely from layers or cuttings, and flourishes best in a dry or well drained locality, where the roots are not subject to over saturation in winter.

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

THE MANDARIN ORANGE.—Few plants better merit the notice of cultivators than this variety of the Citrus family. As an ornamental plant, its recommendations are of the highest order; its pure glossy foliage, its snow-white, deliciously fragrant blossoms, its dwarf and somewhat formal growth, and the profusion of green or yellow fruit, with which it is loaded during nine months of the year, claim for it a place in every collection. But it is principally as a fruit-bearing plant that I am now about to recom-

mend this variety. Its produce is decidedly the best of all the varieties of the orange, and it ripens at a season when gardeners cannot supply a great variety of fruits, on which account, alone, it is worth all the attention which it requires. Those who know the Mandarin Orange only from samples purchased in shops, cannot judge of its merits; as its skin, when ripe, is too tender to bear the ordinary treatment of imported oranges, and if gathered before it is ripe, it will never attain perfection; hence it is rarely met with in anything like its best condition, except where it can be gathered from the tree and eaten. It never can be so treated as to retain the full richness of its aromatic and musky flavor for many weeks after it is gathered. With care it may be kept for a month or six weeks, and be found a rich, sweet fruit; but the peculiarity of flavor, which renders it so agreeable to many palates, will be wanting. Attention to the following method of cultivating it, will enable any gardener, possessing the requisite accommodation, to furnish a supply of its fruit during the winter months.

As plants may be purchased at a moderate price, and true to name, in most respectable nurseries, it is hardly necessary to occupy space with any detailed instructions regarding its propagation. This may, however, be effected by means of cuttings, budding or grafting; but the latter method is generally practised, and will be found the best, as well as the most expeditious. Stocks may be obtained sufficiently strong for grafting, in the course of one season, by sowing seeds of the common orange, and keeping the plants growing in a moist and rather warm pit or house. With these, and a supply of scions, there is as little difficulty in grafting the orange as the apple. I generally perform the operation as early in the season as I can make it convenient to place the plants in a gentle bottom heat, and if it is desirable to have strong specimens, in the shortest possible time, this should be attended to. At whatever season grafting may be performed, the plants should be placed in a close damp pit, where they can be shaded from the direct rays of the sun, and kept warm and moist. If treated in this way, a union will be effected in the course of a month or six weeks; this will be indicated by the growth of the scions. As soon as it is evident that they have taken, the plants should be gradually exposed to a freer circulation of air, and they may be removed to some airy situation when the first growth is accomplished. After remaining in a more exposed place for a month or six weeks, in order to ripen their wood, they may be returned to a close, moist, warm house, and encouraged to make a second growth, which should be carefully ripened by gradual exposure to air and sun previous to winter. With attention to shifting as they may require it, and a liberal supply of manure-water, they will form nice bushy plants by the end of the second season after grafting, and may be allowed to carry from 18 to 24 fruit each, the third season.

Although I have said nothing about insects, I hardly expect much progress will be made in the growth of any variety of the orange tribe without trouble from these pests. They are all especial favorites with the brown scale, and this variety is not exempt from its attacks. After having syringed with water at a temperature of 170 degrees, and tried various recom-

mentations, I can recommend nothing better for clearing the plants of this nuisance than the old tedious practice of removing it by means of a brush and soft soap and water. This method requires time and patience, but an active person will get over more surface in a given time than a stranger to the work would suppose. I invariably clean my plants in this way every winter; at least, such of them as I grow in heat. Those which are kept in the conservatory seldom require any further attention, in this respect, than an occasional syringing with hot water; but this must not be applied in any case, except the trees are in a state of rest; for, if water is thrown upon the young and tender foliage at a temperature above 120 degrees, it will cause instant death to it.

In January I commence forcing my first house of vines, and I place my plants of the Mandarin Orange, which are intended to produce fruit, in the most suitable situation as respects light, &c, which this house affords; they remain there until the grapes begin to color, when they are removed to the best places which can be found for them under the vines in the latest house; here they remain until the cause just mentioned requires them to be removed, and this occurs about the middle of October, by which time their fruit will have attained its full size. I now place a portion of the plants in some spare corner of the stove, or any warm pit, where they may ripen their fruit, and the remainder are accommodated in any cool house, until within a fortnight of their fruit being wanted; they are then removed to the stations which were occupied by those which were placed in heat in order to afford the first supply of ripe fruit, and from which they are taken away immediately their fruit is ripe. Whether the latter be gathered or not, the plants should not be allowed to remain in heat after it is ripe, or they will be excited into premature growth, and will commence flowering, &c., and will be altogether worthless for the following season. The fruit should be all ripened by the end of December, and if not wanted for use, may be allowed to remain upon the trees, in a cool house, until about the end of January, when the trees must be cleared of insects, potted &c., and placed under similar circumstances to those recommended for last season's campaign. Such of the fruit as may remain upon the trees, when it becomes necessary to clean them, &c., may be gathered and wrapped in clean soft paper, and placed in a drawer in the fruit-room, or in any cool place, where it will keep for six weeks without more injury than the loss of its rich aromatic flavor.

There are several peculiarities noticeable in the culture of this tree which I have not referred to; but, if the above instructions be followed, none of them will be met with; hence it is unnecessary to occupy space with any reference to them. I must not, however, forget to put the beginner on his guard against the attacks of red spider, which will be sure to make its appearance unless the syringe is liberally used; but, except where the plants are in flower, this may be employed so as to entirely prevent any injury from this source; and, if through neglect or any other cause, the plants get infested with these atoms of destruction, they are easily removed by means of a good washing with a powerful garden engine.

The soil which I use for this variety of the orange is one third turfy peat, two thirds rich turfy loam, and a sufficient quantity of sand to secure porosity after the fibre is decayed. I also add a quantity of bones roughly broken; but I am not particular about the proportion this may bear to the whole compost: one fourth will be beneficial rather than otherwise, or if inconvenient to obtain, they may be omitted altogether. As regards potting, &c., this should be attended to as the plants may require it. I generally pot early each season, but as I am not anxious to encourage the plants to make very rapid growth, but rather to keep them of a moderate size, and aim rather at the production of well matured fruit-bearing wood, I pot only where this is necessary for the health of the plants, and supply them, during the growing season, with clear manure water from the stable tank, to which I occasionally add a little guano, letting it remain for 24 hours, at least, before applying it to the trees. This will be found to obviate the necessity of very-large pots, and frequent shifting.—(*Gard. Chron.*, 1852, p. 3.)

LIST OF SHOWY BALCONY AND BORDER PLANTS.—Some of our correspondents having asked for a list of evergreens and flowering plants suitable for a border or a balcony during winter, one or two facts occur to us which deserve a passing notice. In the majority of instances the treatment which balcony plants receive, is anything but calculated to retain them in a creditable condition beyond one season. They are, for the most part, what Dickens, in one of his works, terms *everbrowns*; or, if they do vegetate for a few seasons, they are but sorry spectacles, and far from being what they are intended to be—ornaments to a residence. Plants exposed on a balcony are subject to great vicissitudes of climate, and if some little attention is not bestowed upon them, no satisfactory results can be hoped for; for, however hardy in constitution a plant may be, it cannot for any length of time bear up against what an ordinary occupant of a balcony has to endure. In summer their roots are scorched by the sun shining full on the pots; in winter their balls are often frozen into a solid mass. To keep plants in a healthy condition, this must be avoided. Some means must be adopted to prevent such extreme temperatures from exercising their influence on the roots, either by using double pots with a stratum of some non-conductors of heat, as moss, between; or by the adoption of some analogous contrivance suitable to each particular locality, or the taste of individual proprietors. And in watering, too, attention is requisite. To saturate them to-day, and then neglect them for a week afterwards, is not the kind of treatment calculated to preserve them in a healthy condition; and it is often necessary to examine the soil, to ascertain if the water given really moistens the “ball” of earth, for the latter frequently contracts, leaving a vacuum around the inside of the pot, allowing the rapid escape of the water without in the least benefiting the plant, but leaving it a vegetable Tantalus, famishing in the sight of plenty. These remarks, applicable at all times, derive greater force when the winter treatment of such plants is considered. Border plants during summer are but little injured from want of attention; it is in the cold winter season that they are chiefly

liable to neglect, and this may perhaps be attended by effects less injurious than unsightly. In either case, however, it may be enough to state that stagnant water at the roots, and prolonged drought are conditions which it is imperative to guard against. Having said this much on treatment, we will give the following *flowering* kinds, to which we shall be glad to receive additions. Let our friends observe, however, that it is not merely shrubs that are found to be hardy in certain localities that are wanted, but such as flower, whether from their natural habit or from their continuing late, owing to the unusual mildness of the weather:—*Chimonanthus fragrans*, yellow—this generally begins to flower in December, and continues till February; the blossoms are agreeably scented, but the plant is but ill provided with leaves till the spring, 3s. 6d. *Forsythia viridissima*, yellow, very showy; flowers from February to March, 2s. 6d. *Viburnum Tinus* (the laurestine,) white and rose; a well-known and very popular evergreen plant for winter, flowering from November to March or April; there are also two varieties of it, called *lucidum* and *strictum*, which are equally desirable for the winter, 1s. *Ulex europæa*, *flore pleno*; an elegant plant, of small size, with pretty yellow flowers; this flowers from January to March, 1s. *Andromeda calyculata* and *A. angustifolia*, both natives of North America; the flowers are white, and they are produced from January to March, 1s. *Arbutus Andrachne*, white; flowers in early spring, 3s. 6d. *A. Unedo*, white and rose; flowers from September to January, 1s. The *Andromedas* and *Arbutuses* are all handsome evergreens, and always ornamental, whether in or out of flower. *Magnolia conspicua*; flowers from February to March, 5s. *Jasminum nudiflorum*, yellow; flowers from November to January, and is well suited for a trellis or wall, 2s. 6d. The following *Daphnes* are in bloom from January to March:—*D. mezereum*, purple, 1s.; *D. collina*, purple, 2s. 6d.; *D. australis*, pink; *D. oleoides*, white; *D. neapolitana*, purple. *Garrya elliptica*, green; this, though from the color of its flowers is not very conspicuous, may be considered as a curiosity, and is in flower from October to February, 2s. 6d. Of plants belonging to the coniferous tribe, and which are merely ornamental by their evergreen habits, the following will afford a good selection, either for a balcony or border:—*Juniperus Sabiniana*: A dwarf-growing species, with dark colored foliage, succeeds well in a pot. Good plants may be purchased for 1s. 6d. Of this there is a variegated variety, the effect of which is very pretty when mixed with others of uniform tint. *J. virginiana*, or Red Cedar: For about 1s. 6d. a plant 3 or 4 feet in height may be bought in the nurseries. Although this species grows when in the open border to the height of 40 or 50 feet, it adapts itself to pot culture, and makes a good balcony plant. *J. chinensis*: This species is somewhat glaucous in color, and is useful in grouping. Price about 3s. 6d. for a plant 4 feet high. *Thuja plicata* and *T. occidentalis* are both useful. The former is a native of Mexico; the latter, of Canada. Either may be purchased for a shilling. The dark Mexican contrasts well in color with the Canadian of a yellowish-green. *Abies excelsa* or Spruce Fir, with most of its varieties (of which there are no less than seventeen, varying in height from 1 to 120

feet) are good for the balcony. We mention one or two:—*A. pygmaea*, grows 1 foot, 3s. 6d.; *A. clauseniana*, from 2 to 3 feet, about the same price; *A. khutrow* and *A. Douglasii* are worthy of being remembered. The former is very attractive in spring, when commencing its growth, from the delicate green of the young shoots contrasting with the older foliage. The drooping character of this species renders it particularly beautiful. In its native Himalayas it exceeds 70 feet in height; but it grows well in a pot. As a single specimen on a lawn it is very handsome. The latter, the prince of Spruce Firs, is, of course, admired by all. It is a most rapid grower, has foliage of a beautiful lively green, and succeeds well in almost any situation. In its native forests, in North America, it reaches near 200 feet in height. Good plants may be bought for 5s. For a dwarf-growing symmetrical tree *Picea pinsapo* cannot be surpassed. The foliage is of a very deep green. Price for a good plant 10s. 6d. *Cedrus deodara* is too well known to require more than mentioning. Very good plants can now be purchased for 2s. 6d. *Taxus fastigiata* or Upright Irish Yew, in situations where its formal outline is admissible, is a useful plant. The foliage is of the deepest green. Does well in a pot. Price 2s. 6d. *Cryptomeria japonica*: Pale in foliage, rapid growing, very hardy, and cheap; a 3 feet plant may be had for 5s. *Cupressus macrocarpa* and *C. goveniana* are both desirable on account of the bright green tints of their foliage. The former reaches the height of 70 or 80 feet; the latter only 8 or 10. The former is a native of the hill districts of California, and stands our severer weather with impunity. This being a comparatively new species, the price is higher than for many others; 10s. 6d. will purchase a good plant. *Macrocarpa* may be had for a third of that sum. *Biota orientalis*, the Chinese Arbor-vitæ, must not be forgotten. It is very cheap; and, though common, is not the less handsome. In this list we have purposely avoided many desirable species; some because of their expense, others from the desire not to overcrowd the list given. We hope such as we have named will meet the wishes of our correspondents. In respect to the prices here quoted, it must be borne in mind that the respective sums stated are but approximate, since some may charge more, some less.—(*Gard. Jour.* 1852. p. 3.)

FUCHSIA SERRATIFOLIA.—This being a favorite of mine, I am induced to send you my method of cultivating it; during this dreary season (when anything in bloom is desirable) I find it one of the gayest ornaments of the conservatory. At the present time I have many plants in 11-inch pots, a complete mass of flower, on shoots about six inches long; these have been subjected to the following treatment:—cuttings were struck early in February, and, after being potted off, they were repeatedly shifted into a mixture of equal parts loam, peat, and leaf-mould, with a little silver sand, until about the middle of May, keeping them well-topped; by that time they were nice bushy plants. As soon as the weather permitted, I then turned them into the open borders, where the soil was not over rich, choosing as dry a place as possible, and I took no further notice of them till the end of September, when they began to show their flower buds. I then prepared the same soil for them as before, and carefully lifted them into

suitable pots, according to their size, keeping them in a close pit for a few days, and syringing them every evening till they recovered from the check they had received, giving air by degrees, till they could be fully exposed. I then placed them in a shady situation until they were housed, which was when the other greenhouse plants were taken in-doors. I cut back two-year-old plants as soon as they have done flowering, reducing the ball when they commence growing; I afterwards shift them as they require it, subjecting them exactly to the same treatment as young plants. I find that two-year-old plants bloom more freely than young plants, but the flowers are not so large.—(*Gard Chron.*, 1851, p. 804.)

ART. II. *Domestic Notices.*

TWENTY-FOURTH ANNUAL EXHIBITION OF THE MASSACHUSETTS HORTICULTURAL SOCIETY.—The next annual exhibition of the Massachusetts Horticultural Society will be held on the 22d, 23d and 24th of September next. The schedule of premiums of the Society for 1852 appears in another page. If a favorable year, we anticipate a great display of superior fruit.

NEW YORK STATE AGRICULTURAL SOCIETY.—The annual meeting of the society was held at Albany on the 21st of January; the president, Mr. Delafield, in the chair.

The treasurer reported that the receipts for the year 1851 had been \$17,218 07, and the expenditures \$12,545 28; leaving a balance on hand of \$4674 14; already invested, \$7000; plate, for medals, \$644; total, \$12,318 14.

The following officers were chosen for the current year:—

President—Henry Wager, of Oneida.

Vice Presidents—1st judicial districts, James Munroe; 2d, Lewis J. Morris; 3d, A. Van Bergen; 4th, W. C. Watson; 5th, T. S. Flaxton; 6th, O. Chamberlain; 7th, Chas. Lee; 8th, J. A. McElwain.

Corresponding Secretary—D. B. Johnson.

Recording Secretary—E. Corning, Jr.

Treasurer—Luther Tucker.

Executive Committee—J. H. Corney, J. T. Blanchard, J. Butterfield, J. B. Burnett, W. Kelly.

The society decided that Utica shall be the place for holding the next State fair.

Medals were awarded to several persons who received premiums at the late World's Fair, and among them the following for agricultural implements and specimens of agricultural productions:—

To Thomas Bell, of Westchester, Gen. Harman, of Western New York, and Wm. Hotchkiss, of Monroe, each a gold medal for the best specimens of wheat.

D. B. Kirtland, of Rensselaer, silver medal for the best specimens of corn.

Messrs A. B. Allen & Co., of New York, a gold medal for cutlery.

Prouty & Mears, of Boston, a gold medal for best plough.

Mr. McCormick, a gold medal for grain reaper.

Mr. Johnston, who represented the society at the World's Fair, gave a very interesting account of the success of the American reaper in England.

In delivering these medals, Mr. Delafield, the president of the society, presented a series of highly interesting remarks, principally in relation to industry and skill at the World's Fair.

BUFFALO HORTICULTURAL SOCIETY.—The annual meeting was held on the 6th inst, vice president Bryant presiding.

The following officers and standing committees were elected for the ensuing year:—

President—Abner Bryant, (Mr. Hodge declining.)

First Vice President—Charles Taintor.

Second Vice President—Warren Granger.

Treasurer—Austin A. Howard.

Corresponding Secretary—William R. Coppock.

Recording Secretary—John B. Eaton.

Committee on Fruits and Fruit Trees—Benjamin Hodge, Charles Taintor, Geo. F. Pratt, Jos. G. Masten, Warren Granger.

Committee on Flowers and Flowering Plants—William R. Coppock, James W. Brown, Isaac E. Bryant, Elijah Ford, Amasa Mason.

Committee on Vegetables—Jason Sexton, H. W. Rogers, John R. Prince, Joseph Dart, Orlando Allen.

Committee on Entomology and Manures—Lewis F. Allen, William Treat, S. L. Haven.

Council—Abner Bryant, Charles Taintor, Austin A. Howard, Benjamin Hodge, Jason Sexton, Warren Granger, John B. Eaton, William R. Coppock, Lewis Eaton.

The society will hold the annual exhibition on the 14th and 15th of September, and the semi-annual exhibition on the 22nd and 23d of June.
Yours, JOHN B. EATON, *Recording Secretary*.

CINCINNATI HORTICULTURAL SOCIETY.—The annual Fall exhibition of the society will be held in Cincinnati on the 29th of September next. The schedule of prizes has been published, and many of the premiums are liberal, and will undoubtedly induce a spirited competition.

In addition to these, the society offer the following:—

For a cheap, practical, and efficient remedy against the depredations of the curculio on fruit, within this county, \$100.

For a new seedling hardy grape, superior in all respects to the Isabella, a better bearer, and ripening its fruit perfectly, Mr. N. Longworth offers a premium of \$100.

For a new seedling hardy grape, superior in all respects, for the manufacture of wine, to the Catawba, equally productive, as hardy and vigorous of growth, and as great and certain bearer, \$500.

For a hardy seedling table grape, decidedly superior, in all respects, to any hardy table grape now known to the society, and the vine of vigorous growth and a fair bearer, \$200.

The competition for these premiums is open to all.—(*Hort. Review*.)

ART. III. *Massachusetts Horticultural Society.*

Saturday, January 3, 1852.—The stated meeting of the Society was held to-day.

Mr. Walker, the retiring President, called the meeting to order, and inducted the Hon J. S. Cabot, President elect, to the chair, in the following brief and appropriate speech :—

Gentlemen of the Massachusetts Horticultural Society: It is my duty, and I perform it with great pleasure, to induct your President elect to the honorable position assigned to him by your unanimous vote.

Known as President Cabot is to us all, as an accomplished, scientific, and energetic cultivator, in the various departments of Horticulture, his administration cannot fail to be as beneficial to the Society, as I feel assured it will be honorable to himself.

While the reminiscence of so many favors and honors conferred by you ; so many happy hours spent in your company ; so much information obtained in your service ; and a thousand other obligations under which your kindness has laid me, is so fresh in my memory, I cannot find words to give utterance to my emotions. All I can do, gentlemen, is to tender to you my profound thanks, and to invoke Him who has, as we trust, guided our labors and kept us in the bonds of peace and brotherly love, to bless and prosper you.

Mr. Cabot then assumed the chair, and addressed the meeting as follows :

Gentlemen of the Massachusetts Horticultural Society: An election to the office of President of your Society, not more on account of the objects for which your Society was instituted, than of the character of the members composing it, is, in my opinion, an honor highly estimated ; and now, before commencing the performance of those duties appropriately assigned to this Presidency, my own feelings demand, what custom authorizes and propriety seems to require, the expression of my most sincere and most grateful acknowledgments, for what I feel to be a most unmerited favor ; and I avail myself, too, of the opportunity now afforded me, to return you my thanks for those proofs of your consideration that I have heretofore received at your hands.

Conscious of neither possessing high scientific attainments or great practical horticultural skill, and distrustful, too, of my ability faithfully and efficiently to discharge them, it is not without reluctance that I assume the responsibilities imposed on me, by an acceptance of the office to which you have thought proper to elect me ; and this reluctance, so naturally incident to this sentiment of distrust, is increased by the reflection that my deficiencies therein must necessarily be brought into comparison with the qualifications of my immediate predecessor, who for the last three years has, in a manner so acceptable, discharged the duties of your Presidency, and the loss of whose further services to the Society in the same capacity, by his voluntary and to be regretted retirement therefrom, no member can lament more sincerely than myself, his elected successor.

Indeed, such is this reluctance, that had I been enabled to consult entirely and exclusively my own inclinations, my preferences would have been

gratified by being permitted to remain in that station in your Society that I have recently occupied, rather than by an elevation to the one you have thought proper to confer upon me; but as it seems that your views did not coincide with my inclinations, and having been informed that upon the understood intention of your late President to decline a further service in that office, an opinion prevailed that for some reasons my election as his successor was deemed advisable and expedient, when the sincerity of the opinion so expressed had stood the test of unanimous suffrages I did not feel wholly at liberty to refuse what you had thought proper to bestow, and decline an office that I had certainly never sought or scarcely even desired to attain.

This, gentlemen, is both to you and to me an interesting and important occasion—to you, because it confides the presidency of your society to new and untried hands—to me, because it calls me to the discharge of new and untried responsibilities.

Since the establishment of the Massachusetts Horticultural Society, nearly a quarter of a century—a period, long as it may seem in the life of an individual, yet brief and transitory, as I trust and believe, in the existence of this society—nearly a quarter of a century has rolled away, carrying off with the years that are thus gone, a generation of the human family, and, as a consequence, very many of those who were originally the promoters and founders of this institution.

This is an occasion then, that, like the anniversary of almost every event, but certainly of a society composed of numerous members, must almost necessarily give rise to emotions of a mixed and very opposite character. It is an occasion that must necessarily recall to our minds, those of our former associates of whom we have been deprived by death. We miss those who once honored the places that we are now called on to fill, to whom we were accustomed to look for counsel and advice,—who, on all like occasions, formerly cheered us with their presence, and who at all times stimulated and excited us by the influence of their example. And especially are these sorrowful remembrances awakened on the present occasion, in consequence of the recent loss by death of one who was the first President of the Society,—of one who did so much while living by his teachings, his influence, and his example, to cultivate a taste for horticultural pursuits, and to extend and promote a knowledge of horticultural science,—of one, too, who, in all the varied relations of his life, was so eminently entitled to the respect and esteem that he so universally enjoyed. But while this is an occasion, in awakening our recollection of those whom we have lost, to give rise to a feeling of sadness,—so, too, it is one, in view of the present prosperous and flourishing state of the Society, with from anniversary to anniversary an increasing number of members, and constantly increasing means of usefulness, calculated to give rise to those of an opposite character, to feelings of joy and self-congratulation; and in the present consciousness of what we profess, and to what we have attained, our regrets, as connected with the past, become in a measure alleviated, if they are not diminished; and the feeling of sadness gives place to a more cheerful emotion.

The period of time that has elapsed since the formation of this society, has been marked by greater changes, has witnessed more discoveries and the introduction of more improvements in all those arts that relate more particularly to the advancement, the enjoyments and the comforts of life, than probably any period of like duration in human existence. That the art to which this Society is dedicated has not escaped the influence of these changes, discoveries, and improvements, is evidenced by a more cultivated taste for it, by its practice upon more scientific principles, by the introduction into that practice of labor-saving improvements—by a better general mode of cultivation—by the application to the soil of new agents of fertility, and by the introduction and production of a vast variety of new fruits and flowers. In bringing about such results, by the zeal and spirit of generous emulation that has been excited among its members, by the facilities it has afforded for disseminating knowledge to the various discoveries and improvements alluded to, and by the means that it has provided for procuring the new and varied productions, not of our own country only, but of Europe, and indeed of the whole world, this Society has been by no means an inefficient agent.

But, gentlemen, you should remember, that though perhaps something has been done towards carrying out the objects for which your society was instituted, that you have as much as ever, yet to do; that here, as in most cases, a movement in advance is but a step in a progress that is, as it were, never ending; that the end to be always aimed at if never reached, perfection, is ever unattained, perhaps ever unattainable.

Horticulture, an art relating more particularly to the comforts and enjoyment—perhaps, too, to the refinements and luxuries—of life, must, when compared with its sister art, Agriculture, essential almost to our very existence, sink in importance; but though of less importance than Agriculture, Horticulture can hardly be considered of a secondary consequence to any art, that concerns the enjoyments and pleasure of life—satisfying, as it does, at once our sense of the beautiful, both in nature and art, the first as exhibited not in the grand and sublime alone, but in the tamer beauties of the domestic scene—alike as in the exotics of the greenhouse and gaudy ornaments of the parterre, in the humble flowers of the forest and the field—and the last in the application to the improvement of the landscape, of the creation of a refined taste, guided by an artistic skill—and at the same time ministering to a gratification, if sensual in its character, innocent, healthful, and not wholly unrefined. Upon the members of a Society devoted to an art so important and useful as this, for what concerns the innocent and harmless pleasures of life cannot be deemed useless or unimportant—it is incumbent to expect all their energies to carry out, so far as they can be carried out, the designs of its founders, by its institution.

The recommendation of measures for administering the affairs of the Society, different from those heretofore pursued, is not now felt by me to be necessary. Should occasion for such hereafter arise, I shall avail myself of opportunities that will be afforded me to submit to your consideration what may seem to me necessary and proper. I cannot, however, refrain from ad-

vising, in all your disbursements, the practice of a systematic and judicious economy, and the withholding of all appropriations from any objects not strictly consistent with the ends of the Society—and this that we may the sooner be enabled to discharge the debt due from the Society, and also that the formation may be the earlier commenced of a fund whose income shall supply the place of that now derived from sale of lots at Mt. Auburn, an income that must eventually be seriously diminished, if it does not wholly cease.

And now, gentlemen, in all measures that will tend to promote the prosperity of your Society, or that are designed to effect the objects for which it was instituted, "by promoting and encouraging the practice and science of Horticulture," it has become, my duty, as it has thus far been my pleasure, most cheerfully and cordially to co-operate with you. And for these purposes, trusting to your needed assistance, and at all times hoping for your kind indulgence, I, with a reiteration of my thanks for the honor you have conferred upon me, assume the performance of the duties assigned to the office of which by your kindness I have now become the incumbent.

The Finance Committee submitted their report, as follows:—

MASSACHUSETTS HORTICULTURAL SOCIETY, }
JANUARY 1, 1852.

The Committee of Finance having examined the Treasury account for the year 1851, and having found the same correctly cast, and accompanied with proper vouchers, herewith submit their Annual Report, together with a statement and estimate of the property of the Society as it exists at this date.

In the valuation of the Real Estate, Library and Furniture, no alteration has been made since the last Report. To the Stocks, however, there have been added twenty shares of the Portland, Saco and Portsmouth Railroad Co., which it is believed will continue to be a sound, interest-paying stock, and a safe investment for the Society.

RECEIPTS FOR THE YEAR 1851.

Balance in the Treasury, January 1, ...	\$239 99
Rent of Store, ...	1,000 00
" Hall, for the year, ...	780 00
Assessments collected, ...	738 00
Interest from Massachusetts Hospital Life Insurance Company, ...	187 06
Dividends from Worcester Railroad, ...	371 00
Coupons from the Connecticut and Passumpsic Railroad Bonds, ...	300 00
Receipts from the Treasurer, Mount Auburn, ...	3,069 24
Interest on \$2000 in Portsmouth and Saco Railroad Stocks, ...	120 00
Donation from Mr. Smith, by the hands of Mr. Dutton, ...	150 00
Miscellaneous receipts, ...	118 80
	\$7074 09

EXPENDITURES AND INVESTMENTS FOR THE YEAR 1851.

Taxes on Real Estate, ...	\$210 20
Expenses of Annual Exhibition, over and above receipts, ...	138 74

Interest on Mortgage, ...	\$600 00
Insurance, ...	92 00
Twenty Shares of Portland, Saco and Portsmouth Railroad Co.,	1990 00
Premiums and Gratuities, ...	1554 00
Printing, Advertising, Tickets, &c., ...	457 00
Norton and Yale, two bills of Paper, ...	179 00
Salaries, and care of Hall, ...	480 00
Mechanics' Bills, and Miscellaneous Items, (under no particular head,)	573 01
Cash in the Treasury, December 31, 1851, ...	800 14

\$7074 09

ESTIMATE OF THE PROPERTY OF THE SOCIETY.

Real Estate in School Street, ...	\$36,000 00
Furniture, 3 Chandeliers, ...	200 00
2 Bradlee Vases, ...	150 00
2 Marble Vases, ...	90 00
Jones Vase, ...	75 00
Glass Ware, &c., ...	800 00
Safe, &c., ...	250 00
Flower Stands, Tables, &c., ...	250 00
Library and Furniture, Pictures, &c., ...	1700 00
Transactions of the Society, in course of publication, ...	400 00

3,915 00

PERMANENT FUNDS.

Appleton Fund, ...	\$1,000 00
Lyman, " (old), ...	1,000 00
Lowell, "	1,000 00
Bradlee, "	1,000 00

4,000 00

STOCKS.

Fifty-three Shares Worcester Railroad Stock, cost	*\$4,982 00
Bonds of Connecticut and Passumpsic Railroad,	*4,930 00
Twenty Shares Portland, Saco and Portsmouth do.,	1,990 00

11,902 00

\$55,817 00

Deduct Mortgage to Josiah Bradlee, Esq., ...	10,000 00
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\$45,817 00

In closing this Report, the Committee are happy to speak in terms of commendation of the correct and business-like manner in which the Treasury books have been kept. In making these remarks, the Committee feel bound to state also, that the Treasurer considers the salary which he receives, inadequate to the responsibility and faithful discharge of his duties. In this opinion the Committee are inclined to concur. The funds of the Society are increasing, and these duties are becoming more and more re-

* Investment of the \$10,000 Lyman Fund.

sponsible. The committee would therefore recommend that the salary of the Treasurer should be increased, and although the fidelity and integrity of the present officer is undoubted, yet, that it would be expedient, *with increased remuneration* for his services, that the Treasurer hereafter should be required to give bonds to the Society in such sums as may be deemed expedient.

MARSHALL P. WILDER, } Finance Committee.
JOSIAH STICKNEY, }

The report of the committee, relative to the increase of salaries, was referred to the Executive Committee.

The Executive Committee reported that they had approved of the schedule of prizes for 1852, offered by the committee for establishing premiums.

The Executive Committee reported that they had approved of the additional appropriation of \$120 00 for premiums for 1852.

Mr. C. M. Hovey, from the committee, reported that it was expedient that the Society should procure a marble bust of the late Theodore Lyman, to be placed in the Library or Hall. The report was accepted and the same committee authorized to procure the bust.

Voted, that the reports of the committees awarding premiums for 1851, and the schedule of premiums for 1852, be printed for the use of the members.

The following gentlemen were chosen a Committee of Arrangements for the Annual Exhibition for 1852:—

Jos. Breck, chairman, W. R. Austin, E. Wight, Jos. Lovett, E. A. Story, O. Johnson, C. M. Hovey, P. B. Hovey, Jr., D. Haggerston, L. Winship, A. McLennan, A. Bowditch, J. S. Sleeper. The committee were requested to appoint the days of exhibition and report to the Society.

Dr. Samuel Kneeland, Jr., Boston, R. G. Bell, Lowell, and Dr. K. Lathrop, West Roxbury, were admitted members.

Adjourned one week to January 10th.

The following is the schedule of premiums for 1852, approved by the Executive Committee:—

LIST OF PREMIUMS FOR 1852.

AMOUNT APPROPRIATED, TWENTY-TWO HUNDRED DOLLARS.

PROSPECTIVE PRIZES.

For objects to be originated subsequent to A. D. 1846, and which, *after a trial of five years*, shall be deemed equal, or superior, in quality and other characteristics, to any now extant.

For the best seedling Pear, the Society's large Gold Medal, valued at \$60 00

" " " "	Apple, " " " "	60 00
" " " "	Hardy Grape, " " " "	60 00
" " " "	Plum, the Appleton Gold Medal, . .	40 00
" " " "	Cherry, the Lowell Gold Medal, . .	40 00
" " " "	Tree Pæonia, the Appleton Gold Medal, .	40 00
" " " "	Herbaceous Pæonia, the Lowell Gold Medal	40 00
" " " "	Potato, the Society's large Gold Medal, .	60 00

After a Trial of Three Years.

For the best seedling Strawberry, the Lyman Plate,	\$50 00
" " " " Raspberry, the Bradlee Plate,	40 00
" " " " Hardy Rose, the Society's large Gold Medal,	60 00
" " " " Camellia, the Society's large Gold Medal,	60 00
" " " " Azalea Indica, the Lowell Gold Medal,	40 00
" " " " Blackberry,	40 00
" " " " Gooseberry,	30 00
" " " " Currant, Red, or White,	30 00
	\$750 00

PRIZES FOR GARDENS, GREENHOUSES, &c.

AMOUNT APPROPRIATED, TWO HUNDRED DOLLARS.

ORDERED, *That the following Prizes, to be awarded in 1852, be offered by the Society, viz. :—*

For the most economically managed, best cultivated, and most neatly kept Garden or Grounds, through the season,	\$25 00
For the second best,	15 00
For the most economically managed, best cultivated, and most neatly kept Fruit Garden through the season,	25 00
For the second best,	15 00
For the most economically managed, best cultivated, and most neatly kept Flower Garden, through the season,	20 00
For the second best,	10 00
For the most economically managed, best cultivated, and most neatly kept Vegetable Garden, through the season,	20 00
For the second best,	10 00
For the best managed, most economically conducted, and well kept Greenhouse, through the season,	20 00
For the second best,	10 00
For the best managed, most economically conducted, and well kept Grapery, through the season, with or without fire heat,	20 00
For the second best,	10 00
	\$200 00

RULES AND REGULATIONS.

1st. All applications for a visit must be made to the chairman, on or before the 1st of May, stating the extent of grounds, number of fruit trees, whether offered for a Prize, and such general outline as to give to the Committee some idea of the premises.

2d. No Fruit Garden or Grounds, of less than one acre, [and this well stocked and under fine cultivation,] can occupy the time of the Committee.

3d. No *farm* will be visited, unless there should be connected with it a fine Fruit Garden, Vegetable Garden, Flower Garden, Greenhouse, or Graperies, in which case these *alone* will be examined.

4th. It shall be the duty of the Committee to select from the applications, those which may seem most deserving of notice, and to visit as many places, and as often, as they may deem expedient and necessary.

5th. In making all examinations, the utmost regard must be paid to economy, and general thrift; in cases, however, of pleasure, landscape, or fancy grounds, more allowance must be made for taste and design, and a gratuity or complimentary notice may be made at the discretion of the Committee.

6th. No place will be visited officially, with reference to an award, without a written invitation.

7th. All visits will be conducted without previous notice to the owner; and if made out of season, or under unfavorable circumstances, due allowance will be made.

8th. No person shall be a competitor for the Highest Prize, for more than two years out of seven.

9th. The Committee may, at their discretion, give gratuities or substitute gratuities for Prizes, in either case which may best serve the objects of the Society, and meet special cases, always of course within the limits of the appropriation.

10th. Competitors for the Prizes shall furnish to the Committee, if required, a written statement of their mode of cultivation, quantity and kind of manure applied, amount of labor, including their own, and other particulars called for, under the penalty of a forfeiture of such Prize if withheld.

11th. The expenses of the Committee shall be paid by the Society, and a record shall be kept by the Chairman of all places visited.

PRIZES FOR FRUITS DURING THE SEASON.

AMOUNT APPROPRIATED, SIX HUNDRED AND TWENTY DOLLARS.

For the best and most interesting exhibition of Fruits during the season, the Lowell plate, valued at	\$20 00
For the second best,	12 00
APPLES. —For the best twelve Summer Apples, on or before the last Saturday in August,	
For the next best,	6 00
For the best twelve Autumn Apples, on or before the last Saturday in November,	4 00
For the next best,	6 00
For the best twelve Winter Apples, on or before the third Saturday in December,	4 00
For the next best,	6 00
APRICOTS. —For the best twelve, on or before the last Saturday in August,	4 00
For the next best,	5 00
BLACKBERRIES. —For the best specimens, not less than two boxes,	3 00
Amount carried forward,	5 00
	\$600 00

Amount brought forward, ...	\$00 00
For the next best, ...	3 00
For the next best, ...	2 00
CHERRIES. —For the best specimens, not less than two boxes, .	5 00
For the next best, ...	3 00
For the next best, ...	2 00
CURRENTS. —For the best specimens, not less than two boxes, .	5 00
For the next best, ...	3 00
FIGS. —For the best twelve specimens, ...	5 00
For the next best, ...	3 00
GOOSEBERRIES. —For the best specimens, not less than two boxes, .	4 00
For the next best, ...	2 00
GRAPES. —For the best specimens, grown under glass, on or before the first Saturday in July, ...	10 00
For the next best, ...	7 00
For the best specimens, grown under glass, subsequently to the first Saturday in July, ...	10 00
For the next best, ...	7 00
For the best specimens of Isabella Grapes, ...	5 00
For the next best, ...	3 00
For the best specimens of Diana Grapes, ...	5 00
For the next best, ...	3 00
MUSK MELON. —For the best Musk Melon, in open culture, on or before the last Saturday in September, ...	5 00
For the next best, raised by open culture, on or before the last Saturday in September, ...	3 00
NECTARINES. —For the best twelve specimens, ...	5 00
For the next best, ...	3 00
PEACHES. —For the best twelve specimens, grown under glass, on or before the second Saturday in July, ...	6 00
For the next best, ...	4 00
For the best twelve specimens, grown in open culture, ...	6 00
For the next best, ...	4 00
For the next best, ...	2 00
PEARS. —For the best collection, not exhibited before this year, with a written description of the same, the Society's plate, ...	10 00
For the next best, ...	6 00
For the best twelve Summer Pears, on or before the last Saturday in August, ...	6 00
For the next best, ...	4 00
For the best twelve Autumn Pears, on or before the last Saturday in November, ...	4 00
For the next best, ...	6 00
For the best twelve Winter Pears, on or before the third Saturday in December, ...	8 00
Amount carried forward, ...	\$000 00

Amount brought forward, ...	\$000 00
For the next best, ...	6 00
For the next best, ...	4 00
PLUMS.—For the best specimens, not less than two boxes, ...	4 00
For the next best, ...	3 00
For the next best, ...	2 00
QUINCES.—For the best twelve specimens, ...	4 00
For the next best, ...	2 00
RASPBERRIES.—For the best specimens, not less than two boxes, ...	5 00
For the next best, ...	3 00
For the next best, ...	2 00
STRAWBERRIES.—For the best specimens, not less than two boxes, ...	6 00
For the second best, ...	4 00
For the third best	3 00

PRIZES FOR FRUITS.

To be awarded on the first day of the Annual Exhibition.

For the best and largest collection of Pears, consisting of the greatest number of varieties, and best grown, at least three specimens of each variety; the collection to be left on the table of the Society, under the care and control of the Chairman of the Fruit Committee, for two weeks, the Appleton Medal, valued at	40 00
For the second best, subject to the same rules and conditions, ...	20 00
For the best and largest collection of Apples, of the greatest number of varieties, and best grown, at least three specimens of each variety; the collection to be left on the tables of the Society, under the care and control of the Chairman of the Fruit Committee, for two weeks, the Appleton Medal, valued at	40 00
For the second best, subject to the same rules and conditions, ...	20 00
APPLES.—For the best twelve varieties, of twelve specimens each, the Society's Plate, valued at	20 00
For the second best, ...	15 00
For the third best, ...	12 00
For the fourth best, ...	8 00
For the best dish of Apples, twelve specimens, of one variety, ...	6 00
For the second best, ...	5 00
For the third best, ...	4 00
For the fourth best, ...	3 00
PEARS.—For the best twelve varieties, of twelve specimens each, the Lyman Plate, valued at	20 00
For the second best, ...	15 00
For the third best, ...	12 00
For the fourth best, ...	8 00
Amount carried forward, ...	\$000 00

Amount brought forward, ...	\$000 00
For the best dish of Pears, twelve specimens of one variety, .	6 00
For the second best, ...	5 00
For the third best, ...	4 00
For the fourth best, ...	3 00
ASSORTED FRUIT. —For the best basket of Fruit, of various kinds,	10 00
For the second best, ...	7 00
GRAPES. —For the best five varieties, two bunches each, .	12 00
For the second best five varieties, two bunches each, .	8 00
For the third best five varieties, two bunches each, .	5 00
For the best two varieties, two bunches each, .	6 00
For the second best, ...	4 00
For the third best, ...	2 00
PEACHES. —For the best dish, of not less than twelve, .	5 00
For the second best, ...	3 00
	\$620 00

☞ The Prizes and Gratuities will be awarded on the following days :—
 For Cherries, forced Grapes, forced Peaches, and Strawberries, on the last Saturday in July.

For Summer Apples, Apricots, Blackberries, Currants, Gooseberries, Summer Pears, and Raspberries, on the last Saturday in August.

For Foreign and Native Grapes, Nectarines, Peaches, Plums, and Musk Melons, on the last Saturday in October.

For Autumn Apples, Figs, Autumn Pears, and Quinces, on the last Saturday in November.

For Winter Apples, Winter Pears, New Pears, and for the “Exhibition during the season,” on the third Saturday in December.

☞ Competitors for Prizes are particularly referred to the Rules and Regulations, which will be strictly adhered to by the Committee.

PRIZES FOR PLANTS, FLOWERS AND DESIGNS.

AMOUNT APPROPRIATED, SEVEN HUNDRED DOLLARS.

DISPLAY OF GREENHOUSE PLANTS, IN POTS.

To be exhibited at the opening of the Hall, on the first Saturday in May :—

PELARGONIUMS. — <i>Class I.</i> —For the best six new and rare varieties, grown in eight-inch pots, a prize of	\$6 00
For the second best, ...	4 00
<i>Class II.</i> —For the best six new and rare varieties, grown in large pots, a prize of	6 00
For the second best do., ...	4 00
Amount carried forward, ...	\$90 00

Amount brought forward, ...	\$00 00
ROSES. —For the best six varieties of Tea, Bourbon, Noisette, or Bengal, in pots, a prize of	6 00
For the second best, ...	4 00
For the third best, ...	2 00
CUT FLOWERS. —For the best display, a prize of	3 00
For the second best, ...	2 00
FUCHSIAS. —For the best six varieties, a prize of	6 00
For the second best, ...	4 00
CACTUS. —For the best six varieties, a prize of	3 00
For the second best, ...	2 00
CALCEOLARIAS. —For the best six varieties, a prize of	3 00
For the second best, ...	2 00
CINERARIAS. —For the best six varieties, a prize of	3 00
For the second best, ...	5 00
HEATHS. —For the best varieties, a prize of	3 00
For the second best, ...	2 00
GREENHOUSE PLANTS. —For the best display of not less than twenty pots, regard to be had to new and rare varieties, and well grown specimens, a prize of	25 00
For the second best, ...	15 00
For the third best, ...	10 00
HYACINTHS. —Prizes to be awarded second Saturday in May.	
For the best display, not less than twenty varieties, ...	5 00
For the second best, ...	3 00
FORCED HYACINTHS. —For the best display for the season, ...	5 00
For the second best, ...	3 00
TULIPS. —Prizes to be awarded the third Saturday in May.	
For the best thirty distinct varieties, a prize of	8 00
For the second best	6 00
For the third best, ...	3 00
PANSIES. —Prizes to be awarded the fourth Saturday in May.	
For the best twelve distinct varieties, a prize of	4 00
For the second best, ...	3 00
For the third best, ...	2 00
HAWTHORNS. —Prizes to be awarded fourth Saturday in May.	
For the best display, a prize of	3 00
For the second best, ...	2 00
HARDY AZALEAS. —Prizes to be awarded fourth Saturday in May.	
For the best display, a prize of	5 00
For the second best, ...	3 00
SHRUBBY PEONIES. —Prizes to be awarded fourth Saturday in May.	
For the best six varieties, a prize of	5 00
Amount carried forward, ...	\$000 00

Amount brought forward, ...	\$000 00
For the second best, ...	4 00
For the best display, ...	3 00

HERBACEOUS PEONIES.—Prizes to be awarded second Saturday in June.

For the best ten varieties, having regard to the number of varieties, a prize of	5 00
For the second best, ...	4 00
For the best display, ...	3 00

PINKS.—Prizes to be awarded third Saturday in June.

For the best six distinct varieties, a prize of	4 00
For the second best, ...	3 00
For the best display, ...	2 00

HARDY ROSES.—Prizes to be awarded third Saturday in June.

CLASS I.

For the best thirty distinct varieties, a prize of	8 00
For the second best, ...	6 00
For the third best, ...	4 00
For the best display, ...	3 00

CLASS II.

For the best twelve distinct varieties a prize of	5 00
For the second best, ...	3 00
For the third best, ...	2 00

CLASS III.

HARDY PERPETUAL ROSES. —For the best ten varieties, a prize of	5 00
For the second best, ...	4 00
For the best display, ...	3 00

PRAIRIE ROSES. —For the best display, not less than six varieties, a prize of	5 00
For the second best, not less than four, ...	4 00
For the third best, not less than four, ...	3 00

CARNATION AND PICOTEE PINKS.—Prizes to be awarded third Saturday in July.

For the best ten varieties, a prize of	5 00
For the second best, ...	4 00
For the best display, ...	3 00

HARDY RHODODENDRONS. —For the best display of the season, a prize of	5 00
For the second best, ...	3 00
For the third best, ...	2 00

DOUBLE HOLLYHOCKS.—Prizes to be awarded third Saturday in July.

Amount carried forward, ...	\$000 00
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Amount brought forward, ...	\$000 00
For the best display, a prize of	5 00
For the second best, ...	4 00
For the third best, ...	2 00
DOUBLE BALSAMS. —Prizes to be awarded second Saturday in August.	
For the best display, a prize of	3 00
For the second best, ...	2 00
For the third best, ...	1 00
PHLOXES. —Prizes to be awarded third Saturday in August.	
For the best ten distinct varieties, a prize of	6 00
For the second best, ...	4 00
For the third best, ...	3 00
GERMAN ASTERS. —Prizes to be awarded first Saturday in September.	
For the best display, a prize of	4 00
For the second best, ...	3 00
For the third best, ...	2 00
DELPHINIUMS. —Best six varieties through the season, a prize of .	
For the second best, ...	4 00
For the third best, ...	3 00

BOUQUETS, WREATHS, DESIGNS, &c.*Prizes to be awarded at the Annual Exhibition.*

VASE BOUQUETS. —For the best pair suitable for the Bradlee Vases, a prize of the Bradlee Plate, valued at		10 00
For the second best, ...		6 00
For the best pair for the Society's Marble Vases, ...		10 00
For the second best, ...		6 00
PARLOR BOUQUETS. —For the best pair suitable for the parlor, .		8 00
For the second best, ...		6 00
For the third best, ...		5 00
For the fourth best, ...		3 00
CUT FLOWERS. —For the best display and best kept through the exhibition, a prize of		8 00
For the second best, ...		6 00
For the third best, ...		4 00
POT PLANTS. —For the best display, of not less than twenty pots, a prize of		12 00
For the second best, ...		10 00
Amount carried forward, ...	\$000 00	

Amount brought forward, ...	\$000 00
For the third best, ...	8 00
For the fourth best, ...	5 00
COCKSCOMBS.—For the best six pots, a prize of	3 00
For the second best, ...	2 00
BALSAMS.—For the best six pots, a prize of	3 00
For the second best, ...	2 00
DAHLIAS.—Prizes to be awarded fourth Saturday in September.	

DIVISION A.

Premier Prize.—For the best twelve dissimilar blooms, a prize of	8 00
Specimen Bloom.—For the best flower, ...	3 00
Various Colors.—For the best yellow, buff, or orange; purple or maroon; crimson or claret; very dark; white; edged or tipped; scarlet; pink or rose; striped lilac, a prize of \$1 00 each, ...	12 00

DIVISION B.—CLASS I.

For the best twenty-four dissimilar blooms, ...	7 00
For the second best, ...	5 00

CLASS II.

For the best eighteen dissimilar blooms, ...	6 00
For the second best, ...	4 00

CLASS III.

For the best twelve dissimilar blooms, ...	5 00
For the second best, ...	3 00

HERBACEOUS PERENNIALS.—For the best display through the season, a prize of	10 00
For the second best, ...	6 00
For the third best, ...	4 00

ANNUALS.—For the best display through the season, a prize of	10 00
For the second best, ...	6 00
For the third best, ...	4 00

CAMELLIAS.—Prizes to be awarded second Saturday in January.

For the best twelve varieties of cut flowers with foliage, a prize of	8 00
For the second best, ...	5 00

SUMMER PHLOXES.—Prizes to be awarded third Saturday in July.

For the best ten distinct varieties, a prize of	6 00
For the second best, ...	4 00
For the third best, ...	3 00

GREENHOUSE AZALEAS.—Prizes to be awarded second Saturday in March.

Amount carried forward, ...	\$000 00
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Amount brought forward, ...	\$000 00
For the best six varieties in pots, ...	6 00
For the second best, ...	4 00
FLOWERING SHRUBS. —For the best display during the season, a prize of	10 00
For the second best, ...	6 00
For the third best, ...	4 00

Gratuities to be awarded at the Weekly Exhibitions.

AMOUNT APPROPRIATED, ONE HUNDRED AND EIGHT DOLLARS,	\$108 00
BOUQUETS. —For the best display for the season, ...	\$5 00
For the second best, ...	3 00
	\$700 00

PRIZES FOR VEGETABLES.**AMOUNT APPROPRIATED, TWO HUNDRED AND FIFTY DOLLARS.**

ASPARAGUS. —For the earliest and best, not less than three bunches, a prize of	3 00
For the second best, ...	2 00
BEETS. —For the best (pure blood beet,) during the season, not less than twelve roots, a prize of	3 00
BROCCOLI. —For the best three heads, a prize of	5 00
BEANS. —For the best and earliest peck of string beans, a prize of	3 00
For the best and earliest Lima beans, not less than two quarts, ...	3 00
For the best and earliest variety of shell beans, ...	3 00
CABBAGE. —For the best Drumhead cabbage, during the season, not less than three heads, a prize of	5 00
For the second best, ...	3 00
For the best Savoy cabbage, during the season, not less than three heads, a prize of	3 00
For the second best, ...	2 00
CARROTS. —For the best exhibited, a prize of	2 00
CAULIFLOWERS. —For the best and largest, during the season, not less than three heads, a prize of	5 00
For the second best, ...	3 00
CELERY. —For the best and largest blanched, not less than six roots, a prize of	5 00
For the second best, ...	3 00
CORN. —For the best and earliest sweet corn, not less than twelve ears, a prize of	3 00
For the second best, ...	2 00
Amount carried forward, ...	
	\$00 00

Amount brought forward, ...	\$00 00
CUCUMBERS. —For the best pair under glass, previous to the first Saturday of June, a prize of	5 00
For the second best, ...	3 00
For the best and earliest of open culture, ...	3 00
EGG PLANTS. —The best display during the season, a prize of	5 00
For the second best, ...	2 00
LETTUCE. —For the best six heads, before the first Saturday in July, a prize of	3 00
For the second best, ...	2 00
POTATOES. —For the best <i>new</i> seedling, of superior quality, for the table, a prize of	10 00
For the best and earliest peck, previous to August 1, ...	3 00
For the second best, ...	2 00
PEAS. —For the best and earliest peck in June, a prize of	3 00
RHUBARB. —For the largest and best, previous to the first Saturday in July, not less than twelve stalks, a prize of	5 00
For the second best, ...	3 00
SQUASHES. —For the best pure Canada squashes, not less than six in number, a prize of	3 00
For the greatest variety exhibited, during the season, ...	5 00
TOMATOES. —For the best and earliest, not less than one dozen, ...	3 00
VEGETABLES. —For the best display and greatest variety at the weekly exhibitions, during the season, ...	5 00
For the second best, ...	3 00
For the best display and greatest variety at the annual exhibition, ...	10 00
For the second best, ...	8 00
For the third best, ...	6 00
For the fourth best, ...	4 00
For any new variety of vegetables suitable for the table, and worthy of cultivation, other than seedling potatoes, ...	5 00

To be awarded at the Annual Exhibition.

MAMMOTH SQUASH. —For the largest and best, the Society's Silver Medal, ...	
For the second best, ...	3 00
PUMPKINS. —For the largest and best, the Society's Silver Medal, ...	
For the second best, ...	3 00

	\$155 00
For gratuities, ...	95 00

\$250 00

The Rules and Regulations are the same as in preceding years.

HORTICULTURAL OPERATIONS**FOR FEBRUARY.****FRUIT DEPARTMENT.**

January has been one of the most severe winter months we have had for many years. The early part was exceedingly dull, cloudy and stormy, with quantities of snow, and this was not only augmented by a heavy storm on the 18th, but the thermometer fell down to the low point of 12° below zero on the 20th, and 10° below on the 21st, (the day we write this.) It is this cold weather, of such long continuance, which so injuriously affects indoor vegetation. The longer days, and greater amount of light, is sensibly felt by all plants, and they soon show the activity of the sap, with the advent of the month. And now, with this increased action of vegetation, begins the labors of the ambitious gardener. No time should now be lost, and nothing should be neglected. With March, outdoor operations commence, and, unless work is forwarded now, many things will be likely to be overlooked.

GRAPES, in early forcing houses, will now be in flower, and will need much attention. Increase the temperature slightly, and guard against damp. If dull, rainy, or snowy weather should be of long duration, keep up slight fires during the day, as well as night, as the condensation of heat is not so great during the day as in the night. Water carefully, and no oftener than is absolutely necessary, until the berries are all well set. Grapes in greenhouses will now begin to break, and will require attention. Syringe daily, morning and evening, and damp the floors of the house in good weather. Vines in pots, intended to fruit, may now be brought into the greenhouse.

PEACHES and Figs, in pots, now introduced into the greenhouse, or grapery, will ripen their fruit in June.

ORCHARDS may now be pruned; where there is a great number of trees, it is necessary that pruning should be commenced in season.

SCIONS of all kind of fruits may now be cut, and preserved in earth, in a cool cellar.

GRAPE, RASPBERRY, CURRANT, and STRAWBERRY seed, for the purpose of raising new varieties, may now be planted in pots or boxes in the greenhouse or in a hot bed.

FLOWER DEPARTMENT.

The Greenhouse and Conservatory will now begin to assume a more gay and cheerful aspect. The Camellias, Acacias, Laurustinuses, &c., will be in their height of bloom, and, with the many other flowers now successively opening, will make a fine display. By proper attention, and by an early preparation of such plants as Cinerarias, Calceolarias, Stocks, Scarlet Geraniums, Verbenas, &c., a succession of flowers may be kept up till June.

The greatest evil to guard against, in our climate, is a high temperature.

Our bright sun, in good weather, will raise the thermometer to 75° or 80°, while, at the same time, the cold is so severe as to admit of only a small amount of ventilation; and, in a majority of houses, the heat must be so excessive, to keep out the frost during night, that at one end the temperature will be 60° and at the other only 30°. Under these circumstances it is very difficult to maintain the proper degree of warmth; but, if the work is begun when the plants are put into the house, it is easy to inure them to a cool atmosphere, much more favorable to their health and vigor than a higher one. A writer in the *Gardeners' Chronicle* gives the following as the proper degrees of night temperature:—Geranium house, 38° to 43°; stoves, 50° to 55°; intermediate house, 41° to 50°; heath house, 32° to 38°; and the day temperature, 5° to 15° higher. Now, here we see the reason why heaths, which in our greenhouses are subject to the temperature of what the writer calls the "intermediate house," do not do well in summer. Their constant and rapid growth, in such a house, unfits them to stand our hot sun, when removed to the open air; a feeble habit is engendered, and the result is a yellow and sickly plant, which the heat of summer augments, and finally causes its death. Amateurs and gardeners then exclaim, "It's no use making the attempt; heaths can't be cultivated under our hot sun!"

CAMELLIAS, in the height of bloom, will require liberal supplies of water, and occasionally liquid guano. Shade from the sun, if it is likely to burn the leaves. Young plants, showing signs of beginning to grow, may be repotted. Now is the time to inarch and graft the plants.

JAPAN LILIES intended for blooming in pots, in the Greenhouse or Conservatory, should now be repotted, and placed away in a cool situation, for a week or two, until the shoots are an inch or more long, when they may be brought into a better place on the stage.

PELAGONIUMS will now be advancing rapidly, and good specimens will require considerable care to keep them bushy, healthy, and fine. Keep in a light, airy place, as near the glass as possible; keep the shoots regularly tied out, and water sparingly at present.

AZALEAS will now begin to flower, and will require more liberal supplies of water, with occasional syringing.

ACHIMENES and GLOXINIAS should now be potted, and placed in the warmest part of the house, to give them a good start.

ERICAS will now require attention. Young plants, in particular, should be kept on a shelf, near the glass, in the very coolest part of the house. If they need it, repot them at once, and not delay till they become so potbound as to injure their growth.

CINERARIAS, showing flower, should now be shifted into larger pots, if they require it. Be sure to keep off the green fly, so injurious to the plants.

FUCHSIAS should continue to have attention, if early flowering plants are wanted. Repot, and prune in the old plants, and they will make fine specimens in June and July. Cuttings put in now will make fine plants for blooming in August and September.

PANSIES in pots should now have a shift into the next size. Sow seeds for a succession in the open air.

CALCEOLARIAS should be shifted into larger pots.

VERBENAS intended for fine blooming specimens should be shifted into larger pots, and trained to a flat or circular trellis.

CACTUSES will now begin to grow, and will require to be more liberally watered.

ROSES will now be in full bloom; water liberally, using liquid guano occasionally. Fumigate for the green fly.

CLERODENDRONS should now have a shift, and be placed in the very warmest part of the house.

OXALISES done blooming may be placed away under the stage, and sparingly watered.

PLUMBAGO LARPENTÆ should now be repotted, and started into growth. Propagate from cuttings, or division of the root, if a larger stock is wanted.

ALSTROMERIAS should now be repotted, using a mixture of loam, peat, and leaf mould.

COBÆA SCANDENS, and other climbing plants, now sown in a hot bed, will make fine plants for the open ground, in May.

SCHIZANTHUSES should be shifted as often as the pots are full of roots, before they become what is termed potbound.

FLOWER SEEDS of various kinds, for early blooming, such as Stocks, Coxcomb, Amaranthus, and similar sorts, should be planted this month in hotbeds.

CUTTINGS of all kinds should now be put in—such as Heliotropes, Scarlet Geraniums, Petunias, Verbenas, Salvias, &c., &c.

Attend to the cleanliness of the house, look over and remove all dead and decaying leaves, or branches, from every plant. Top dress, and wash the pots, if they require it.

VEGETABLE DEPARTMENT.

The vegetable department will require looking after with the commencement of February; and wherever a good assortment of early vegetables is wanted, a great many kinds should be sown this month. Hotbeds should now be made, without delay. One good bed will do to commence with; but others will be required for a succession of crops, and a good quantity of manure should be in readiness to make up fresh beds, and reline those in which the heat has declined.

SEEDS of Cucumber, Tomato, Lettuce, Egg Plant, &c., &c., should now be planted in pots, so as to economise room. When well advanced they can be set out in new beds, or hardened off in pots for the open air in May.

MUSHROOM BEDS. Where there is a warm, dry cellar, or where there is room in a warm shed, or under the stage of a greenhouse, mushroom beds may now be made, which will produce abundantly till hot weather. Directions will be found in our last volume, which, if followed, will secure an abundant crop.

THE MAGAZINE OF HORTICULTURE.

MARCH, 1852.

ORIGINAL COMMUNICATIONS.

ART. I. *Apparent Spontaneity of a Growth of White Birch, (*Bétula populifolia*), with Remarks on the Adaptedness of certain Trees to our poorer Soils.* By JOHN L. RUSSELL, Professor of Botany and Vegetable Physiology, to the Massachusetts Horticultural Society.

THE rapidity with which spots are covered with an entire new growth under certain circumstances, has lately fallen under my observation. I adduce it to show, among other facts, the importance of some such artificial resort to induce such a growth, when it may be needed. In some parts of the State, (Massachusetts,) especially near the seacoast, much of the land is of that poor and sterile character, which renders doubtful the use to which it can be applied. Long, narrow ridges of coarse gravel, or else small rounded hillocks of the same constituents, cover thousands of acres; producing scarcely more at the very best, than a feeble pasturage in spring or late in the autumn. On these bleak and treeless elevations, rising from twenty to fifty feet, it may be, above the plain, or else bounding corresponding depressions, into which all the decomposing vegetable matter washes by the sweeping rains, or by the melting of the snow, a profusion of lichens flourish, to the exclusion of higher plants. These are principally *Cladonias*, such as *Cl. rangiferina*, or *Reindeer moss*, *Cl. furcata*, *Cl. uncialis*, and *Cetrària islandica*; the latter the far-famed Iceland moss, and which, of all these species of plants, seems to be the most agreeable to sheep

and cattle. The most prevalent grass is the common Forked beard grass, (*Andropogon furcatus*, Muhl.) whose wing stems and silken seeds, rising above the tufts of wide-spreading foliage, are so familiar to every body, and which, when faded and dry, constitute the autumnal feature of a sterile soil.

Such hills are economically employed in the repairing of highways and roads, if they are contiguous; or else in filling up swampy and boggy spots; or gravelling peat meadows, previous to sowing them with the English grasses, subsequent to their draining.

As the coarse gravel is thus removed, quite a different sort of earth frequently appears, consisting of a very fine particled sand, of a somewhat tenacious consistence; and when saturated with water, forming a kind of quicksand.

Nothing could seem less favorable for vegetation; and yet on such denuded spots, there will soon be perceptible the rudiments of a valuable produce. A similar spot in my neighborhood I have frequently visited, in order that I may witness the renovating process of nature. This process is both marked and singular. The first attempts at vegetation, if I may so term them, were on the part of the mosses, which soon appeared. Blackish byssoid filaments, or else deep green filaments of the same texture, began to creep over the surface. These, it is well known, are the primitive growth of several species. Accordingly, during the winter, when the absence of snow allowed inspection, and towards the next spring, I discovered the young stems of *Polytrichum juniperinum* and perfect plants of *Funaria hygrometrica*. This was in less time than a year after the removal of the layers of gravel. On the spring after, (a year from the last mentioned period,) I saw large patches of perfect plants of *Trichostomum tortile*, with a species of Rush, (*Juncus*), and with the pretty *Fimbristylis capillaris*.

It was now that the white birch was plentifully perceptible, coming up thickly, so that at the end of that summer succeeding, the ground was, in spots and particular places, strewed with little seedlings of an inch or more in height. From being thrown out of the soil by frost, many perished.

Those that remained grew with great vigor on the next summer ; and selecting two of average size as specimens, I found that they had attained to more than a foot in height. The side branches were, when present, also four or five inches long. Other plants had now succeeded in finding foothold, such as a species of *Aster*, the bog willow, (*Salix conifera*, (MUHL.), growing from a seedling an inch or two high in the season ; while the *Trichostomum* and *Polytrichum*, already mentioned, had excluded the *Funarias*, and were fixed occupants ; the latter making a capsule occasionally, and furnishing its stellate and flower-like heads.

The facility with which unoccupied spots can be thus rendered productive, is in this case mainly owing to the great quantity of seeds, which the white birch usually bears. These are produced in catkins or aments, which, on ripening, fall to pieces and are then blown to a distance by the autumnal and winter winds, in the form of chaff, and readily find root in any new soil. For wherever the sod has been removed or worn away by wheels in the transportation of the gravel, for instance in the cart-ruts, a similar abundance of seedling birches were to be seen.

• Two facts, then, present themselves, viz:—first, the exuberance of means in nature for vegetative processes ; and second, the probable success attendant on experimental planting of sterile soils.

The first is strikingly exemplified, not only in every such instance as the one thus, accidentally as it were, brought under my notice, but will become familiar to any one that will take the trouble to inspect the natural growth of much of the present woodlands near the seacoast, particularly in Plymouth county, for instance. From the want of any tree growth over vast areas of such gravelly hillocks, knolls and sharp ridges, it might have been conjectured that no kind of tree ever grew there, and that the bare features they present at the present time, are identical with the aspects they presented before civilization was introduced. But such I suspect is not the case ; and, on the contrary, I am led to suppose that an old and wasteful husbandry has consigned to barren-

ness a large portion of the primitive soil. When it is considered of the greatest importance to clear away the forest growth, an indiscriminate destruction might be anticipated. Pasturage was once deemed more valuable than woodland, and in proportion as the pasturage grew less favorable, the area would be enlarged. The thin soil, which had accumulated on the surface through the action of centuries, would retain its place for a few years only, to be washed away by the rain or dissipated by the elements. If cropped by such grains as it might bear on a few succeeding years, it would still sooner become exhausted; and employed for grass culture, the produce would be scanty, especially under the former usage of extensive cultivation, and the non-employment of stimulating and refreshing manures. Once devoted to pasturage, every year would increase the deterioration, while every effort for a succession of trees on the part of nature, would be less likely to prosper, from the liability such young trees would be subjected to be browsed upon and destroyed, and the introduction of lichenose vegetation.

It is with a feeling of regret that I have often witnessed the entire sweeping away of natural copses and narrow wood lots from ridges of land, whose produce in any other sort of growth would be scarcely worth mentioning. I can remember several instances where such a demolition of trees has left traces of an agricultural zeal, whose merits could only consist in the misapplied industry that was requisite. Nature is the great teacher, and there is no department of human labor in which we can do scarcely more than imitate her, would we become successful. Strictly speaking, then, in reference to nature, there is no soil that is barren, no land that is sterile. To mark the diversified kinds of forest growth over such tracts of narrow ridges and gravelly hills, would be sufficient to show the hidden mineral resources, which reside in these lands. Every kind of earth seems to have its appropriate species of plant, and, with the accuracy of an almost certainty, we can calculate, from an inspection of the mineral constituents, what kind of vegetation to expect to find upon it. No doubt, the range of forest growth depends upon latitude; yet

it is not latitude either, in so great a measure as we might at first sight suppose. Were latitude, in its parallels of temperature, the principal cause of the difference of such kinds of forests as we see, as we proceed northward, or even to a certain extent as we proceed southward, it would be quite impossible, or at least far more difficult than we find to be the case, to cultivate trees on soils not indigenous to them, or to overcome this inadequacy by a gradual acclimation. We do not expect to see such trees as are cultivated on unnatural soils, in all the vigor and habit of their natural condition. Yet they grow, and, to a certain extent, thrive and endure to many years, to reward the industry or the taste that, transplanting them from their homes, induces them to find a new habitat elsewhere. It were far better, then, to consult the capabilities of soils, in order to secure such growth as is most congenial to them.

It is to be hoped that the subject of arboriculture will ere long receive that attention, which its importance demands. As agriculture is becoming less and less profitable in the vicinity of all our great cities and considerable towns, and as much of the sterile soils of old cultivation are almost thrown up as useless, a little attention to the introduction of forests, might, I should think, be advantageously recommended by our societies, that charge themselves with the interests of the farming community. If premiums on a liberal scale were offered for the reclaiming of worn-out pastures, of depauperated rye fields and the like, by the cultivation of such kinds of trees as will be found to grow, it would not be too much to anticipate a favorable change in the features of our lands. The remarkable success which has uniformly attended any experiments in this species of agricultural labor, gives promise of what could be anticipated, when employed on the widest scale. This latter remark leads us, however, to the brief consideration of the second fact, which I also would have noticed, as stated before.

A soil which becomes covered with any kind of vegetation, seems to be preoccupied by that vegetation, to the exclusion of any other. We see this in larger and in minor

instances alike. A wood lot, in which any sort of tree particularly obtains, appropriates the energy of the soil to its wants. Or if there are several species, as is not unfrequently the case, these particular species avail themselves of the fact of preëccupancy. When removed by the axe, the vigor of their roots prompts them to spring up again immediately, and unless injured, to replace the loss of their parent trunks. So, old neglected fields, where mulleins, thistles, asters, solidagos, and a host of such useless plants may be annually found, so completely shade the ground, and choke the surface soil, as to prevent the chance of anything better appearing. Descending in the scale of size, a lichen-covered soil is equally unproductive, from this exclusive preëccupancy before noticed. Some species of *Cladonias*, *e. g.* *Cl. rangiferina*, or *Cl. Boryii*, act like fleeces of wool, or like sponges, to absorb every drop of dew and much of the rain for their own use, and keep the under surface quite dry. I have seen ashes spread over spots thus covered by these lichens, and though usually a fertilizer, yet they produced scarcely any effect than the death of the lichens or the introduction of a plant scarcely better in an economical point of view, I mean the White-weed, Oxeye or White daisy, (*Leucanthemum vulgare*.) The tearing apart the sod, the upturning of the surface soil, and the breaking up of the outside, seem requisite in changing the growth. By such and similar means, a chance is given to the adhesion of such kinds of seeds as may be naturally, or what is best, artificially applied.

The respect which one insensibly gains for a tree, amounts in some instances to almost a passion. Anything which bears the aspect of an arborary character, is entitled to this respect. There may be something grand and imposing in the wide sweep of the prairies, but the eye must tire with the sameness and uniformity attendant. He who is born on a barren waste even, may love its unaltering features, may delight in its monotony and its savage sterility, yet the presence of a single tree is suggestive of a comfort incompatible with the former. How many of our seaside villages would be rendered far more attractive, if the houses stood less conspic-

uous before the traveller, and if never so meagre an attempt at something better and more primitive, was perceptible! I remember the pleasure that the occurrence of a large sweet-briar rose, trained on the end of an old weather-stained dwelling house, gave me, in such a village, as evidence that beauty was not wholly sacrificed to utility; and I have often regarded with admiration, any successful project to introduce the commonest kinds of trees, or the least valuable fruits, in spots where a previous cultivation had injudiciously neglected the capabilities of the soil.

But, as "necessity is the mother of invention," perhaps after all that can be said, we are anticipating in these projects and details. It will doubtless be many years ere we shall rectify the errors of our forefathers, and replace the beautiful aspects which once were perceptible over the surface of the sea-beaten shores, or over the inland fields and hills of our native State. The cultivation of natural and of artistic beauty comes after utilitarian schemes and projects have had their day; and as wealth accumulates and needs objects for its outlay, so may our deserted areas and sterile soils begin to blossom and to bud again, in wildernesses and forests. Experiment, meantime, would not be wholly inutile or unavailing, to ascertain whether even arboriculture might not be pecuniarily profitable; and herein, I think, that a wide field of usefulness and of true taste opens for our enterprising and wealthy men to occupy; the more especially as farming has become a fancy employment, in which the income can be no more speedy, and often less sure, than in the case proposed. In lieu of this, it only remains, that future *necessity* prompt, what foresight might have anticipated.

From observations of long continuance, I feel persuaded that there are no kinds of waste land, which might not be rendered better than usual. Of what possible advantage can it be, to deprive of its chance of renewal, the surface of whole districts, where the ground seems to be paved with stones, so abundant is the debris of some ancient cataclysm. Even this, were the motive sufficient, could be restored, if previously denuded. In some of our old farming towns in the interior,

I have seen comparatively fertile fields invaded year by year by the loose drifting sands of the pine plains, from which the wood had been many years previously removed. The melancholy and saddening appearance of such tracts would be enough to depreciate the value of the adjoining lots. The white pine and the pitch pine (*P. strobus* and *rigida*) have been advantageously and artificially planted in some instances, on such places. Similar processes have long obtained in Europe; and on the western coast of that continent, resort has been had to the planting of species of the pine indigenous to the climate, and to the admixture at the same time of certain plants of a spreading form, whose branches should cover the ground, and thus prevent any further moving of the surface by the winds.

It is to be presumed that the attempt to restore wood growths on those narrow gravelly ridges, which now deface so many of our older farms, may prove difficult, after the natural restoration, from the suckers of previously cut trees, shall have been delayed, and the soil has become depauperated. Yet a gradual series of yearly outlays might turn those unsightly excrescences into more comely and useful tracts; for where or what is the tree, whose growth and shade and falling foliage, and natural offices of kindly regard to the soil, would not make a pleasant return for all such efforts in its behalf?

Rocky and precipitous surfaces of the ground often afford excellent woodland, and should therefore be suffered to renew their growth, by excluding any treatment that would prove injurious. The power of life, and even of a vigorous growth, which some trees possess, of flourishing on such soils, seems really marvellous, and exhibits a beneficence of nature, betraying likewise some of the modes she employs in converting the desert into places of fertility. The disintegration of all rocks, especially of those termed the primitive rocks, must be necessarily slow; and the wonder of the beholder is excited in perceiving on what exiguity of nutriment, as it would seem, trees thrive and grow in the interstices of loose stones, or in the crevices of vast masses of granite. Meanwhile, two processes are going on, viz., the upheaving

of the plates of the rock, (when it is thus fissile,) through the swelling of the roots and stems; and again, the penetration of the rain, snow and frost. Every year throws down increased and increasing bulk of foliage, of twigs, stems and even of branches, to afford supplies of vegetable soil by their decomposition, and to allow chance for smaller kinds of plants to find some foothold to grow. The uses of those very humble vegetables, the lichens, mosses and fungi, and their allies, are perceptible in the processes; and they all love to linger around the bases of these hardy forest denizens, clinging, with pertinacity of a seeming affection, to the moist and shaded surfaces of the rocks, saving each little particle of dust and sand of disintegration, among their velvety leaves, or, in the case of the fungi, rending asunder the decaying fibres of the dead twigs and leaves, to crumble down into mould, and to provide a suitable material for some other species of tree or of plant, and in time to clothe and cover the once sterile rock surface with a depth of nutritious earth. How minute, yet admirable, these tiny ministers of nature, to do her bidding, and to bring about her magnificent results!

The evidences of successful planting, over once neglected and sterile surfaces, by our nurserymen, horticulturists and by some of our farmers, betoken that an attention to such pursuits is being awakened. Every record of such attempts is valuable, because it will serve to keep alive the interest, and afford proofs of the utility, of any experiment in its behalf.

February 2, 1852.

ART. II. *On the Cultivation of Herbs and Salads.* By J. CUTHILL. From the *Gardeners' Chronicle*.

IN our last volume, we gave a series of articles by Mr. Cuthill, on the Market Gardening around London, and from what we have learned from many of our readers they were considered among the most valuable papers in that volume.

We now have the pleasure of presenting the first of a series

of papers on the Culture of Herbs and Salads, a subject not generally well understood, but yet of great importance and one which involves much capital and labor with our market gardeners. Mr. Cuthill's papers will detail the method of growing these for the London market, which requires an immense supply; and as most of the same kinds are grown in larger or smaller quantities here, the system of cultivation pursued by the London growers, cannot be otherwise than useful to all. As is the case with the cultivators of vegetables, there are, as Mr. Cuthill truly observes, "knick-knack ways," in which, after all, consists their superior system of management:—

I purpose giving a series of short articles upon herbs and salads. It may be supposed that little can be said respecting such things; but as London growers, whom I have already shown to be first class cultivators of fruits and vegetables, have also a few knick-knack ways of managing herbs and salads, I hope that what I may have to state in the course of my papers will be found of some service.

Herbs and salads are nature's medicine; and if man were to use more of them in connection with his daily food, he would pass on through life in a much more comfortable way than he at present does; for there is scarcely a plant, however humble, that has not its medicinal purposes. People of every clime know this, and even animals are led by instinct to select those which their wants at particular times require. Those persons who use a fair proportion of fruits, vegetables, herbs, and salads, are always in better health than those who live largely, and almost exclusively, upon animal food. The bad effects of the latter kind of food becomes more especially apparent in winter, when their usual exercise is comparatively limited. In what I have to say on the subject I shall confine myself entirely to a few of those herbs and salads which require particular modes of cultivation.

I have repeatedly visited the herb grounds of various districts, and more especially those of Mitcham in Surrey, some nine miles south of London, where hundreds of acres of many sorts of herbs are grown. So extensive, indeed, are

these fields, that on approaching that locality in the summer time, with the wind in the southwest, the combination of odors can be easily discovered in the air which is "redolent with sweetness." Mr. Richard Arthur, brother to a large grower there, showed me a large bottle of oil of Lavender, whose value, he said, was six guineas. Every bit of ground in front of the cottage doors is full of herbs, which receive universal attention here. In some places I saw a great deal of Groundsel and Chickweed getting ready for the London cage birds. Hundreds of the poor of our great metropolis make a living by travelling into various country districts after birds' food; and many of them have a knowledge of wild herbs which they bring home for the herbalists beyond what might be expected of them. I may state here in a preliminary way, that herbs ought not to be planted in any hole or corner; they should be grown in full sun-light, as fine flavor depends upon exposure just as much in their case as in that of the finest fruits or vegetables. I hope that gardeners will not think I am instructing them in this matter. They must bear in mind that all the world are not gardeners, and that amateurs and tradesmen generally want to know something about herbs; and as my articles are likely to be largely quoted in provincial papers, I hope that some good may be derived from them.

Herb management is not very well understood; in the case of liquorice, for instance, writers on this subject say—Plant cuttings of the root (query, which roots,) 18 inches apart in February; again, as respects mint, they direct divisions of the roots to be put in in February or March, but this is not the kind of information that is wanted; there is a large number of herbs not in daily use, to which the above may apply, and which may be passed over by saying—divide the roots, plant in March: but of those in great demand, it is like saying skin a hare and cook it—but how? I am also prepared to state that the most luxuriant herbage and finest blossoms are to be obtained from plants put in in November, because they have ample time to make good roots before winter. Mint, perhaps, may be an exception, for if this is

planted in a well prepared ground in April, and when the plants have grown four inches long, just raised, roots and all, and the seed sown off, it is astonishing what splendid herbaceous and strong blossom it will produce by autumn. The plants of rosemary and lavender will, I hope, be found to be the extraordinary way of managing some of the plants of peppermint for distillation, surprised me more than the rest, as well as the storehouses for drying the plants, which, more especially in wet weather, they could not do without. Some account of these, however, together with some of the culture of the different herbs taken *seriatim*, will form the subjects of future communications.

CULTURE.—About Mitcham, the number of acres occupied by the crop alone exceeds 200. The soil in which it degenerates is a light sandy loam. About Mitcham it is nearly all of that character, and it is mostly worked by the plough; but had they to pay 5*l.* an acre for it instead of 3*l.*, they would not be so taken to the spade; then a disease, to which lavender has been subject these twelve years, would probably be found to disappear. I consider that the ground is very much worn out, having been under this crop for hundreds of years: dung is unsuitable to lavender, so that when a new plantation is about to be formed they generally manure heavily and plant potatoes, and next autumn lavender is put in.

In the proper cultivation of this crop, as soon as the potatoes are off, the whole of the land ought to be spade trenched, but plough trenching would possibly do, in the following manner, viz.:—throw out a trench two spades deep along each side; by this simple plan the workmen could plough two furrows deep. The plants should be put in in November, some plant in March; but the crop put in then never succeeds so well. The land about Mitcham is so sandy, warm, and light, that when the slips are put in in November they make fresh roots before Christmas. The only advantage of planting in February is that diseased shoots may be then seen and avoided. The disease, of which I have just spoken, comes upon the plant very rapidly, the leaves looking as if they had received a slight scorch, and very soon the whole plant dies.

Planting is performed in the following manner; but, in the first place, it must be understood that single plants are never employed; properly speaking, each bush is composed of a small handful of slips—I counted four in one hole. The ground being all lined out, plants are lifted out of the old plantation that is being destroyed, and split into as many pieces as possible. The further they are split down, so as to have roots to them, so much the better; for, if by carelessness a strong slip is broken off high up, that slip is almost sure to die before summer. The plants are inserted at least six inches deep, leaving only about three inches of the head above ground, and they are placed two feet apart each way. The first year they yield a few spikes of blossoms, but the second is always considered the best, and they last four or five years, depending, of course, upon the general health of the plants. Nothing is done to them all the summer except hoeing and keeping them free from weeds. During the second year an acre will fetch 20*l.*, the expenses of cultivation being about 3*l.* 10*s.*; cutting, about 7*s.*; distilling, nearly 1*l.* 10*s.*; tithes, a trifle.

The proper time for cutting is just when the lower blooms are beginning to change color to a darkish brown, and after cutting the sooner it is distilled the better, say two or three days, as, if left too long, the flowers lose much of their fragrance. Flower-stems and blossoms are all distilled together, and the first running is not allowed to occupy more than two hours; this, on account of the stalks, is to get all the clearest and best; the second run occupies four hours, but the last is generally of a light sherry color, and is rather stronger and rougher in its odor than the former. With the thousand-and-one purposes to which lavender-water is applied every one is acquainted; but a proper chemical manure for this useful herb is still a desideratum.

LIQUORICE.—The cultivation of this plant is but little understood in this country; it is grown in but few districts round London. The first field of it I ever saw was at Newcross, nearly where the station of the Brighton Railway now stands. That was 23 years ago. The locality is called the

- Jerusalem-level, and before the Thames was banked in, there can be no doubt that at high water the river flowed over this ground for some eight miles, covering many hundreds of acres, each tide depositing mud. This deposit is 4 and 5 feet deep, rather sandy, but quite free from stones; and this is the kind of soil to grow liquorice in. All ground for this crop must be clear of stones, which would cause the roots to be forked and crooked, and thereby diminish their value. The subsoil ought to be sand or gravel, in order that no stagnant water might lodge about the roots during winter. To prepare liquorice ground well, it should be dunged to the amount of from 40 to 50 tons an acre—depending, of course, upon the previous richness of the soil—and spade trenched to the depth of 4 or 5 feet, and laid up in ridges till the spring. In March the ridges can be levelled down, and prepared for planting.

The largest growers of liquorice now round London are at Mitcham, and if any one is desirous of cultivating this plant, he could not do better than apply there for stock. The underground stems or rhizomes are what should be planted. These grow horizontally about an inch below the surface, and never descend nor come up. They sometimes push 3 and 4 feet in a year. They are furnished with eyes every 2 inches, which grow well the first year after planting. Every November these underground stems must be forked up, cut close off by the neck of the roots, and, if fresh plantations are wanted, they are cut into lengths of two eyes each, and wintered in heaps out of doors, covered over with straw and mould, like potatoes; but, if not required for planting, they are sold at once for some of the inferior purposes of sweetening, as, for instance, for beer. These underground stems are pithy, and not half so sweet as the roots. They are generally the size of a quill, and if they are not removed every eye grows along their whole length, and fills the ground with worthless liquorice, completely choking the main crop.

A liquorice plantation looks something like so many sapling ash trees, about from 3 to 4 feet high, but sometimes they reach 5 feet, throwing out leaves every 4 or 5 inches. The

stems are as thick as a middling-sized willow, hard and woody. They are used for thatching sheds and lighting fires with.

The proper time for cutting the stems down level with the ground is November, when the sap has descended, and the tops appear yellow. Those who have saved their underground stems for planting, should put them in, in March, in rows 18 inches apart, and 9 inches distant in the row; something after the fashion of willow slips, or currant or gooseberry cuttings, only both eyes are left on. They are planted nearly level, say an inch below the surface. Nothing more is required except keeping the ground clean, and, as I have said, removing the underground stems every November for three or four years, until the main crop is lifted.

Ground at Mitcham costs from 3*l.* to 4*l.* per acre. An acre of three-year-old plants will produce between 4 and 5 tons of good roots, and the price for the largest and best roots, as I am told, is from 60*l.* to 70*l.* per ton; smaller roots much less. A good liquorice-stick is about the size of a well-grown horseradish, although some are as thick as small parsnips, and 3 or 4 feet in length.

In taking up the crop, a trench is taken out to the depth of 3, 4, or 5 feet, according to the nature of the former trenching; a rope is then tied round the top, and it takes all the strength a man has got to pull the plant up. The root generally breaks off, say a foot or so below the trenching; but, having no eyes, it never sprouts again. I have been informed that home-grown liquorice is better than foreign; and if the acreage given above be correct, it must be a paying crop.

ART. III. *Pomological Gossip.*

McAVOY'S SUPERIOR STRAWBERRY. In our last volume, (XVII, p. 360,) we noticed this new strawberry, and the Report of the Committee of the Cincinnati Horticultural Society, awarding the prize of \$100 to Mr. McAvoy for its pro-

duction; and, as the committee made no remark in relation to its qualities, by which it could be compared with other known kinds of merit, we made the inquiry at that time, hoping that the committee, or some of our Cincinnati friends, would inform us of the size or weight of the berries. Mr. Kelly, nurseryman of that city, in a note accompanying a few plants which we purchased to give the variety a fair trial, states that "there is no mistake about the merit of this strawberry. I cannot remember having seen any of the fruit from them of such great size and weight, as those stated to have been obtained from your seedling. The *general* size of the berries, and the *quantity* of the crop, as well as its *quality*, are the questions here."

Beyond this we have learned nothing definite in regard to it, until the last *Rural New Yorker* came to hand, in which we find a letter from H. P. Norton, of Brockport, N. Y., which states just what we supposed to be the truth in regard to the alleged merits of this new seedling. Mr. Norton's remarks are as follows:—

I saw the "Queen City," Cincinnati, and have a word or two to say of what I learned there. One fact I became convinced of is, that they of that city do not produce so large strawberries as we raise in Munroe [county.] I made the acquaintance of Mr. McAvoy, in honor of whom the new prize variety was baptized "McAvoy's Superior," a plain, sensible Hibernian, from whom I obtained plants, and who exhibited what he declared to be an accurate colored representation of the fruit of this variety. I inquired, "How large were the largest you raised?"

"That one," pointing to the picture, "was the largest."

"Well, how much did it measure?"

"Oh! four and a half inches."

"Are they really larger than Hovey's grow with you?"

"Oh, yes."

"But we, in New York, have Hovey's of larger size than that. I raised them this year considerably larger."

"I dare say. I don't doubt they grow larger in your state than here. Your season is longer, and the berries have more

time to grow. Our season is hot and short, and they come to maturity very quick, and don't get such size."

It may be the "Superior" will, with us, having more time to grow, excel Hovey's in magnitude, as it does in Cincinnati, where it originated. Who knows?

Mr. Norton's question is certainly significant. Another season will reveal "who knows."

MR. LONGWORTH'S OPINION OF PEARS ON THE QUINCE STOCK.—Mr. Norton called on Mr. Longworth, the Nestor of Horticulture in the West.

"By way of introducing myself, I had put into my valise a specimen of each of the following pears:—White Doyenné, Louise Bonne of Jersey, Beurré Diel, and Duchess of Orleans,—and, on presenting them, I remarked that they grew on dwarf trees, on quince stocks.

"'Quince stocks,' replied he, 'pears on quince ar'n't fit to be in any man's garden. They never bear, and the fruit is good for nothing when they do.'

"'But, my dear sir, these grew on such trees, and they are handsome specimens, and all bore such crops. I was obliged to thin the fruit, and from one tree, only five years planted, I gathered, this fall, more than a bushel of pears, good enough for anybody.'

"'Five years! I've had them in my garden these ten years, and they have never borne at all. How many kinds have you?'

"'About sixty, growing, and had thirty-two in bearing this season.'

"'They are gathering up a great many new varieties now-a-days, but most of them are worthless. There are but three or four kinds of pears worth eating.'

"And so, enlightened in regard to pears, I changed the subject, and talked of wine."

If Mr. Longworth's knowledge of the strawberry is no greater than his knowledge of pears, we fear but little reliance can be placed upon his opinion of the new seedlings which originated in his garden, and for which *he* or *his* own gardener was awarded the prize offered in part by *himself*.

HARTFORD PROLIFIC GRAPE.—This is the name given to a new native grape, raised in West Hartford, Connecticut, by Mr. Steele. We have not seen this new grape, but we have been favored with the annexed account of it by Mr. G. W. Russell, of Hartford, who has repeatedly tasted the specimens exhibited before the Hartford County Horticultural Society.

From Mr. Russell's statement it appears to possess the excellent property of ripening in the early part of September, and though not equal to the Isabella, it is so much superior to the common wild grapes, which are everywhere cultivated, owing to the uncertain maturity of the former, that it will be a desirable acquisition, particularly in localities unfavorable to the Isabella. Mr. Russell's communication is as follows:—

"DEAR SIR:—I write to introduce to the notice of your readers a new grape, originated about six years since in the garden of Paphn Steele & Son, of West Hartford. It sprung up accidentally in a cluster with two others, and was allowed to grow. It has fruited for three years past, and has attracted the attention of gentlemen interested in Horticulture. I said it grew in a cluster; the other two proved to be similar to our common black Fox grape, and were destroyed. This, perhaps, is a crop of the Isabella with the Fox. The bunches are large, rather loose, berries round, skin thin, black, very sweet, rather more pulp than the Isabellas, but much less than our common native grapes; wood moderately stout; *ripens at least two weeks earlier than the Isabella*. Mr. Steele exhibited well ripened specimens on the sixth of September last. The Hartford County Horticultural Society have thoroughly examined it, and have named it the "*Hartford Prolific*." It has been on their tables for three years, and it is believed to be a fruit worthy of attention, more especially when the Isabella does not ripen.

"Of course it will not take the place of the Isabella,—the grape is yet to be, that will do that; but for certain localities it is, in our opinion, just the grape. In the mountain towns, in this state, the Isabella does not ripen one year in four; in some of them not all. For those places this variety is to be recommended; being early, and of good flavor, with very

little foxiness, and infinitely superior to the whole herd of wild grapes. GARDNER W. RUSSELL. *Hartford, February 13, 1852.*"

THE PRIMATE APPLE.—Some time since (vol. XVII, p. 506,) we gave some account of the history of this apple, by Mr. A. Fahnestock, of Syracuse, New York. Our correspondent, J. C. Holmes, of Michigan, having noticed Mr. Fahnestock's communication, in which he traced the apple back to some scions engrafted by Mr. Lyman Tubbs, now of Michigan, he requested his friend Mr. L. H. Trask, of Kalamazoo, to find Mr. Tubbs, and inquire of him where he obtained the scions from, and whether the tree was a seedling, &c. A reply was received from Mr. Trask, and forwarded to us by Mr. Holmes. The substance of his letter is as follows:—

"After so long a time, I have been able to see Mr. Lyman Tubbs and procured of him such information as I could, in relation to the Primate Apple.

"Mr. Tubbs says he is *the* man ; that he always called it the July apple, and that is the name he had with the scions, which he procured from New Jersey, while he lived in Benton. He obtained the scions through some neighbors of his, in Benton, from an acquaintance of theirs by the name of Bush, who lived in New Jersey ; but he does not know in what town or county Mr. Bush resided, and the friends of Mr. Bush, who lived in Benton, are all dead, or gone away, he does not know where. At this time, Mr. Tubbs thinks that this Mr. Bush, of New Jersey, died some three or four years ago.

"This is about all the information I could get from the old gentleman ; except, he thinks that the scions he obtained from New Jersey were from a grafted tree, and not from a seedling. Mr. Tubbs also says there are some trees grafted with the apple on the farm he used to own near Galesbury, in this county, where he thinks grafts may be obtained. *Yours truly, L. H. TRASK: Kalamazoo, Mich., Jan., 1852.*"

This letter may lead to the discovery of some further facts in regard to the origin of this variety. As, however, the scions were obtained for Mr. Tubbs by a friend, his remark

that he thinks they were from "a grafted tree, and not a seedling," we think were conjecture ; as probably at that time but little was thought of the origin of any good apple, and that it would be of little importance. The fact that no such apple has been described, or is now known, so far as we have any knowledge, in New Jersey, leads us conclusively to the belief that it is some native seedling, not known beyond the locality of its origin until grafted by Mr. Tubbs.

ART. IV. *Gathering and Preserving Fruit ; with Engravings of a Fruit Room.* By the EDITOR.

IN our January number, (p. 15,) we presented our readers with the plans and descriptions of a Fruit Room belonging to Mr. J. Moorman, of London, who has been highly successful in keeping fruit in a fine state of preservation for a long time, and whose specimens of pears have repeatedly received the premiums of the London Horticultural Society.

We do not know of a place which seems better adapted to the keeping of fruit than that referred to, but as there is a great interest manifested on the important subject of the preservation of fruit we have thought the following account of a fruit room, somewhat differently constructed from Mr. Moorman's, though upon the same principle, with plans and descriptions, might add something to our stock of knowledge, and afford some hints which may be of value in the construction of similar houses. The article is from the *Revue Horticole*, translated in the *Gardeners' Journal*.

The Hon. M. P. Wilder informs us that he has a fruit room constructed similar to Mr. Moorman's, with this difference, that in place of the cavity between the inner and outer walls, the space is filled with charcoal, as a non-conductor. Whether this is any improvement over Mr. Moorman's plan we are unable to say, but we suspect that for winter fruit it does not possess any superiority over it ; for producing a cooler temperature in the summer we have no doubt it is

valuable. In this room Mr. Wilder has kept Beurré Diels up to the 1st of February in fine condition.

Now that amateur cultivators are beginning to reap the results of their labors in planting trees, the question as regards the preservation of the fruit is yearly assuming more importance. When they could gather but three or four dozen of d'Arembergs, Glout Morceaux, or Easter Beurrés, it was hardly worth the while to try experiments upon their preservation; but when the dozens are augmented to bushels it then becomes necessary to ascertain how they can best be kept so as to have them in all the freshness of the autumn fruits.

We commend not only the method of constructing the room, as detailed in the annexed paper, but also the equally important observations on gathering and storing, and the valuable advice in regard to the drying up of superabundant moisture by means of chloride of calcium:—

The art of preserving fruit is in intimate connection with its culture, and of no less importance to the consumer than it is to the dealer, who is often liable to considerable loss from the want of a good mode of keeping his stores. To supply this want and to show how the desired object may be attained in the most certain and economical way, is the purpose of this article. Before entering into the details connected with the arrangements of the house we shall offer a few remarks on gathering fruit; for, unless fruit is gathered with due care, and at the proper time, its preservation becomes impossible. With respect to ripeness then, we proceed to remark that every kind of "stone fruit" (cherries excepted) should be gathered three or four days before what is known as perfect maturity has been attained. Pears and apples that ripen in summer and the early part of autumn should be gathered ten or twelve days before they arrive at that stage. The different sorts of fruit when thus gathered, contain all the elements necessary to attain to ripeness, through independent chemical reaction. The juices of fruits which have been thus detached from the trees are thereby more perfectly

elaborated ; the fruit is therefore less aqueous and better flavored. The change from a green to a yellowish color, at that part of the fruit which is next to the wall or shade, may be taken as the surest indication that gathering should be proceeded with. Cherries, gooseberries, raspberries, &c., should be allowed to ripen on the tree or bush. Such pears, apples, &c., that do not, properly considered, attain maturity on the tree, but require to lie in the fruit-room for some time, should be gathered when they have attained full development, and before the tree has ceased to vegetate. This gathering may be resumed, from time to time, between the end of September and the end of October, according to circumstances. Experience has shown that fruit will not keep well on the tree after the latter has ceased to grow ; nor will its flavor be so good, because the stoppage of vegetation implies a corresponding fall of the temperature ; consequently the elaboration of the fluid in their tissues cannot be effected. On the contrary, we commonly see fruit become shrivelled and dry, if gathered too soon. Hence the necessity of gathering fruit at two different periods from one and the same tree. First from the lower half of the tree, where vegetation ceases first, and eight or ten days later from the upper half, or extremities of the tree. For this reason fruits are sooner fit for gathering from espalier trees than from standards ; and likewise sooner from old trees than from young and luxuriant ones. The best guide for ascertaining whether they are fit for gathering is, their easy parting from the tree. The different kinds of nuts, walnuts, chestnuts, &c., are better in flavor, and preserve best, if left on the tree until they drop of themselves. Grapes destined for either immediate consumption, or to be preserved, must first have attained complete maturity. The longer grapes are allowed to hang, the more their saccharine properties will be enriched. In localities where grapes ripen in the open air, they should be kept from those ripened in houses or on espaliers. In storing fruit, fine dry weather should be chosen, as then it is charged with less humidity, consequently in the best condition for being laid on the shelves of the fruit room. The best

method of gathering fruit is to pluck it off singly with the hand, care being taken not to cause the least pressure, which would produce a brown speck, and ultimately decomposition. Various contrivances have been introduced for the purpose of gathering fruit without the aid of a ladder; but practically they require too much time, and therefore a common ladder is perhaps the most convenient after all. Long shallow and wide cross-handled baskets, having a piece of carpet at the bottom, are in general use about Montreuil. In these baskets the fruit is placed in layers, three layers, separated by leaves, being the usual contents of each basket, which, as they are filled, are carried gently to the fruit-room on the head. The fruit, we shall now suppose, having been gathered with due care and at the proper time, the first condition necessary to preserve it during the winter is, perfect immunity from frost. The process of ripening should also be promoted or retarded according to circumstances, so as to have only a certain number ready for dessert at one time, thus keeping up a succession from the time they are gathered till the succeeding year's fruit come in. For this purpose, the fruit-room should have the temperature uniform and equal; for frequent change of temperature absorbs the fluids, and fermentation soon follows. The temperature should be from 46 to 48 deg. Fahr. A higher temperature would accelerate the process of ripening too much, and a lower would retard it. If fruit is placed in a room or cellar where the temperature is very low—say, an ice-house—it will keep for a long time, if not destroyed by moisture; but before it is wanted for dessert, it should be exposed for some time in a higher temperature to attain complete maturity. Light is found unfavorable to the keeping of fruit, and therefore it should be excluded. The atmosphere should be kept rather dry than humid, and the fruit should be placed separately, so as not to touch one another. We would select a northern aspect, and dry place, sheltered, if possible, by high evergreen trees, for the purpose of building the fruit-room; the quantity of fruit to be preserved must determine its dimension. The annexed plan is fifteen feet long by twelve feet wide, and nine feet high, (inside meas-

ure.) In a room of this size 8,000 fruit can be conveniently preserved. It is surrounded by two walls, (*fig. 6, a and b.*) A body of air is interposed between the two walls, at *c*, and which serves to keep the interior from exterior atmospherical influence. The walls are one foot and a half thick, and are built of wood, clay, and straw, which, on account of being bad conductors, are preferable to common masonry. The ground (or floor,) both

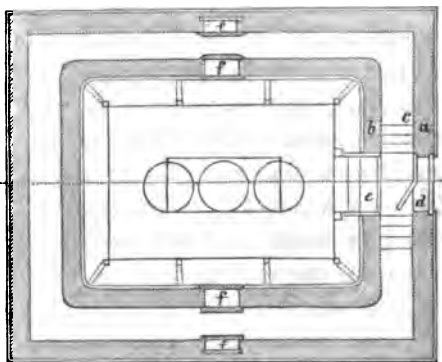


Fig. 6. Ground Plan of a Fruit Room.

in the interior and at *c*, are made of the same material as the walls. The entrance door is at the north side. In the exterior wall is a double door, *d*, one to open at the outside, and the other in the inside. The door, *e*, which is a single one, opens direct into the fruit-room, and in severe weather it is filled up with straw. Four wooden shutters, *f*, two in the interior and two at the exterior wall, are placed four feet off the ground, and level, for the purpose of cleaning and airing the fruiting-room before fruit is put into it. The ceiling is composed of a layer of moss, maintained and covered with laths; the outside is thatched, projecting beyond the exterior wall. In the interior, benches or shelves, (*fig. 7,*) from the bottom up to the ceilings, are placed a foot above one another. To facilitate the inspection of the fruit, the shelves above four feet from the ground are placed at an angle of 45 deg., *a*, in the form of a stage; the lower ones are fixed horizontally, *b*. To ensure the circulation of air between the shelves, they are divided in five parts, and a space of an inch left between each of them; those in front, *c*, are provided with a ledgeboard. The centre of the fruit-

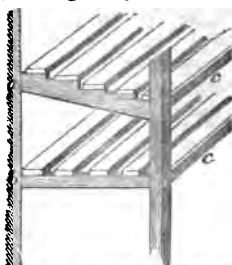


Fig. 7. Section showing the arrangement of the Shelves.

room is reserved for a table, (*fig. 6.*) of about six feet long by three feet broad, for the purpose of receiving the fruit previously to being arranged upon the shelves. Such, then, is the mode of constructing a fruit-room, by the aid of which we are enabled to furnish the table with an equal quantity of dessert fruit every day throughout the year. When the fruit is brought into the fruit-room, they are at first placed upon the central table, which is provided with a quantity of dry moss or cotton; and after having been sorted, all the bruised ones are removed; the sound ones are left for three or four days, to throw off the superabundant moisture; when this has been effected, the shelves are covered with a thin layer of perfectly dry moss or cotton. The fruit are wiped with a piece of flannel, and placed one by one upon the shelves, not touching one another. Grapes can also be preserved for a length of time in this place, having been gathered as described above, and taken to the fruit-room. Every branch is examined, and the injured berries cut out carefully with a



Fig. 8. Method of suspending clusters of Grapes.

pair of scissors, and fixed the reverse way to a metallic hook, of the form of an S, (*fig. 8.*) Attached thus, they are less likely to rot, because the berries are placed in a freer position,

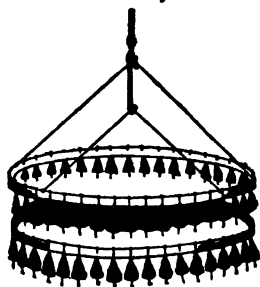


Fig. 9. Movable frame for suspending the Grapes.

and do not touch each other. They are hooked to one or two hoops, as shown at *fig. 9*, and suspended with a cord to the ceiling, and made movable with two pulleys. Having thus all the fruit disposed in the fruit-room, the doors and shutters are opened during eight or ten days, to deprive the fruit of the superabundant moisture; and after this has been done, a fine dry day is chosen to close the fruit-room hermetically. The doors are no more opened, except for the work necessary to be done in the interior. Until now, no other mode was known of drying up superabundant moisture in fruit-rooms

during winter, except by permitting a greater or less current of air to pass through the apartment. The inconveniences this plan presents are obvious: the interior temperature will change according to the exterior; and, bad as this plan is, if the thermometer stands under freezing point, no use can be made of it at all; hence the fruit must be abandoned to chance, and disappointment will soon follow. In this case we recommend the use of chlorine of calcium. This substance has the property of absorbing about double its own weight of moisture, when it becomes liquid after being exposed for a certain length of time to a humid atmosphere, produced by the moisture emitted by the fruit. It is thus suited to maintain the atmosphere in the best condition. To use chlorine

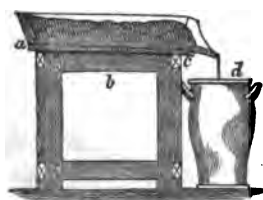


Fig. 10. Box for using the Chlorine of Calcium.

of calcium, a wooden box is made (*fig. 10, a,*) one foot and a half square by three inches deep, and placed upon a table, *b*, which is at the side, *c*, an inch lower than on the other. The chlorine of calcium, after having absorbed a certain quantity of moisture, becomes liquefied, and runs into the earthenware vase, *d*, placed underneath for the purpose. Should the chlorine become dissolved before the total consumption of the fruits, the dose must be renewed; in which case, the liquid in the vase, if put in a pan, and placed above the fire, becomes again chlorine of calcium, and as good for use as before.

ART. V. *On the Culture of Azaleas.* By W. SAUNDERS, Gardener to J. Winans, Esq., Baltimore.

WHEN a person becomes interested in floricultural pursuits and operations, sensations of pleasure will be experienced, different in their effects from the enjoyments derived from many other sources. Instead of producing satiety, the relish for them becomes greater, as the acquaintance with them extends. The ultimate tendency of such pursuits is to ameli-

orate disposition and character. The study of nature in all her various phases and phenomena, whether it is pursued in the animal, vegetable, or mineral kingdoms, is a source of never-ending delight; it enlightens our intellect, expands our ideas, and elevates our sentiments. Dispelling that almost impenetrable mist of self-sufficiency that hangs before our eyes, it teaches us to look from "nature up to nature's God," enables us to appreciate the bountiful goodness, and form true conceptions, of an all-wise Creator. To experience these sensations in the cultivation of flowers, it is not necessary to be possessed of extensive gardens, or expensive collections of plants; neither is it indispensably requisite that we should possess the learning of a physiologist, or the discriminating knowledge of a botanist; a person may know but little of these sciences, and yet derive much refined enjoyment from a greenhouse. Neither will extent of operation or multiplicity of objects, in themselves, constitute a source of pleasure. These perceptions of delight are more likely to be realized by the concentration of skill upon a few judiciously selected plants, maintained in the highest state of cultivation and general neatness, than in the possession of an extensive collection, no individual of which, unless by chance or accident, ever reaches even to mediocrity.

It is all-important, therefore, that the plants selected for extra care should be worthy of it; the principal criterion of excellence being abundance of magnificent flowers, enhanced in value when produced upon plants possessing other desirable properties, such as fine foliage, flowers remaining long in perfection, hardiness of constitution, and simplicity of culture. Not that all others should be utterly discarded, even from limited collections, as many possess high botanical and historical interest, and some few are worthy a place for their beauty of foliage alone. Flowers, however, are the principal attraction, and few there are who can contemplate their beautiful forms, without joining in the aspiration of the poet:—

"Blessed be God for flowers,
For the bright, gentle, holy thoughts that breathe
From out their odorous beauty, like a wreath
Of sunshine on life's hours."

The *Camellia* is justly allowed to occupy a high place among the flowering plants, and I do not hesitate in placing the Indian *Azalea* as a fit companion for it, hardly inferior, as regards habit and foliage, and far superior in producing a mass of rich colored flowers. They are shrubby evergreens, of free growth, flowers of infinite variety of color, remaining a long time on the plant, and slightly fragrant, possessed of all the properties desirable in an ornamental plant; and bloom from January to May, a season when all flowers are doubly valued.

Raising new varieties of plants from seeds, is a very interesting branch of floriculture, but unless the flowers are hybridized, it is of little use to spend time with such as *Azalea*, that require two or three years' cultivation previous to flowering, as the chances of possessing anything superior to the parent are few. With hybridized seeds, the case is different; when these are obtained, they should be sown in February, in well drained vessels containing two or three inches of soil, of a light sandy texture. Leaving a perfectly level surface, sow the seeds and cover with a sprinkling of sand, and apply moisture carefully. Wooden boxes are generally preferred for vegetating seeds of this description, as they do not abstract moisture from the soil so rapidly as earthenware, a point of great importance with small seeds like those in question, that are easily disarranged with water. A little moss spread on the surface is a good medium to water through. When the young plants have made their third leaf, transplant them in fresh soil about an inch apart, and keep them from the direct rays of the sun. They will soon require placing separately in small pots, and will do better in the house than out of doors, for the first year. In the following spring, shift them into four inch pots, and keep them in the house until August. They may then be set out of doors for two months. Perhaps a few of the strongest will form flower buds; the greater part will not do so until the following season. They will not require much water or heat during winter, and when the growing season again approaches, place them in six inch pots, and treat them as before, viz: set them out of doors

when their growth is completed, which will cause them to set flower buds. These will expand in spring; that is, three years from the time of sowing the seeds.

Cuttings made from young wood, taken when about two inches long, planted in sand and set in a shaded place in the house, will form roots; but as many of the finest varieties are of slow growth and short lived when raised in this manner, it is customary to engraft them upon more robust growing kinds. *A. Phœnicea* is well adapted for this purpose; being a free grower, it will keep place with any of the others. Small plants of these, in a healthy condition, should be procured. May is a good month for performing the operation. For scions, take one year old wood a few inches in length, cut the stock horizontally, near the surface of the pot, split the head of the stock, and insert the scions, as in the common mode of cleft grafting. After they are properly tied, wrap a small bit of moss round the junction, and keep it moistened with water; this, by excluding dry air, will facilitate a union which will take place in a few weeks, if kept in a moist temperature.

The best time for potting a general collection of *Azaleas*, is during the months of February and March. If they are shifted into fresh soil at a more advanced season, there is a probability that they will make a late growth, and a consequent imperfect set of flower buds. "Shift them after they have done blooming," is very good advice, but with late flowering sorts the objection just alluded to, is applicable. They will show larger and brighter colored flowers, from the stimulus received by the additional soil, and, from the same cause, they will send out stronger shoots when they commence growing. The only objection to this early potting, is the liability of the roots being destroyed with too much water; but this objection (if such it can be called) is easily guarded against, as all plants newly potted require less water for some time, than they did before the operation; the fresh soil being unoccupied with roots, is not so rapidly drained of its moisture.

Soil composed of half decomposed turves, well mixed with material favorable to the transmission of water, should be employed. Let both plant and soil be rather dry than otherwise; press the soil pretty firm while potting, then give the whole a good soaking with water. This watering immediately after potting, though disapproved of by some, I consider advantageous, as it places the old and new soil in equal conditions at once, and can never be attended with harm, if the materials are properly prepared. Frequent syringings with soft water will benefit them much while growing; this is also the proper time to prune them into shape, and equalize the growth, by pinching the tops out of luxuriant shoots. When the elongation of the wood is completed, and begins to assume a brown color, they will form flower buds with more certainty if placed out of doors to the full influence of the weather. These, as well as other plants in pots set in the open air during summer, will require less water if the sides of the pots are covered with tan or other material capable of preventing evaporation.

After removing them into the house for winter, they should not receive much water, this being their period of rest. A few degrees of frost will not injure them, if kept comparatively dry. They will need more water as the flower buds swell, and when the blooms fade, pick off all the flower stalks and seed pods: unless they have been hybridized, it weakens them to ripen much seed. The following is a descriptive list of desirable varieties, suitable for a small collection:—

Variegata—color French white and reddish pink, fine form.

Exquisita—deep flesh color, marked with pink, large flower.

Gledstanesii—pure white, striped with rose, fine shape.

Leucomegestre—white, stained with lemon, large flower.

Triumphans—salmon color, thick corolla, large, fine form.

Refulgens—light red with slight spots, large flower.

Speciosissima, reddish crimson, large and showy.

Lateritia—brick red, medium sized, fine circular flower.

Optima—deep red, spotted, fine shape.

Copeii—bright rose, slightly spotted, large fine flower.

Coccinea—light red, faintly spotted, flower small.

Ignescens—bright crimson, large and showy.

Baltimore, January, 1852.

ART. VI. *Notes on Gardens and Nurseries.*

A RECENT visit to New York gave us an opportunity to visit some of the nurseries and gardens in that neighborhood, which has not occurred for three or four years. Since then there has been a great increase of nurseries; and small establishments, containing greenhouses and forcing pits, more especially for the sale of bouquets and plants, have sprung up in great numbers, at the upper part of the city. The older and well known places have, at the same time, continued to enlarge and increase their facilities for business; and the rapid increase of population, as well as the spread of a taste for trees, plants and shrubs, have caused such an active demand as to give all a reasonable share of trade.

Nursery of G. C. Thorburn, Astoria.—Since our last visit to Astoria, Mr. Thorburn has made many alterations in the old range of greenhouses, and erected two new ones. One of them is a rose house, about seventy-five feet long and eighteen wide. It is span-roofed and arranged with a broad shelf on each side for plants, and a pit in the centre for roses. In this pit were some remarkably fine specimens of that fine old rose, Lamarque; also, of Solitaire, Souvenir de la Malmaison, &c. They were just now breaking after having been headed in; but up to January, they continued to give quantities of the most splendid flowers. The pelargoniums were in fine order and occupied one of the shelves; among the newer ones we noticed Crusader, Rolla, Rebecca, Brilliant, Fouquet's Magnificent, Flamingo, Aspasia, Topping's Elegans, Field Marshal, &c. Some of these are remarkably fine, particularly Aspasia, Crusader and Topping's Elegans.

The collection of cinerarias is also fine, but they were not in bloom; among them we noticed Jelly Treffes, Glow-worm, Annie, Beauty of Utica, &c. This beautiful tribe of plants is not half appreciated; the improvement effected in the size of the flower and form of the petals has given it an additional claim on the florist's care, and no greenhouse collection can be considered complete without some of the cinerarias, they bloom so profusely, and make a greater show during the months of February and March than any other flowers except camellias and azaleas. They are easily raised from seed though it is no easy task to raise new and superior varieties. Of the new scarlet geraniums Mr. Thorburn has a fine collection, embracing Cottage Maid; Tom Thumb's General; Cerise Unique, with a beautiful green leaf shaded with brown and dark ash, dwarf and spreading habit; Commander-in-Chief; Flower of the Day, with variegated foliage, and many others. Some new heliotropes have been added to the collection, viz., corymbosum, dwarf, and the very essence of scent; reptans; Triomphe de Liege, &c.

Passing into the camellia house, we found the plants, of which there are many fine large specimens, loaded with blossoms; the collection is principally whites, of which Mr. Thorburn has probably the largest specimen in the country.

In the propagating house, we found a stock of all the new things, coming on finely under the charge of Mr. Frazier, the gardener; of *Hoya bella*, many nice, compact, sturdy plants; fuchsias, of several new kinds; Pompon, and other chrysanthemums of the newer sorts; scarlet geraniums, gloxinias, and verbenas, the list of new ones of foreign origin being rather limited this year. The whole collection we found in excellent order.

Commercial Gardens of Messrs. Parsons & Co., Flushing.—During the last three years, Messrs. Parsons have greatly extended their exotic department, which now contains four or five span-roofed houses for plants, grapes, &c. The whole is now under the charge of Mr. Cadness, an excellent propagator and cultivator of plants.

We had but a short time to spend here, but in a hurried

walk through the hothouse we noticed several new things ; among others, four fine species of *Hoya*, viz., *imperialis*, *Pötsii*, *campanulata*, and *cinamoniflora*, the former growing very rapidly and showing buds on one of the plants ; it is stated to be a showy thing, and from the figure of it, which we have seen, it will undoubtedly be a fine acquisition : several new *Eschynanthuses*, *E. miniatus*, *speciosum*, *Horsfieldii*, &c. ; *Bouvardia leiántha*, *Abutilon álbum*, *Dipteracanthus spectábilis*, *Clerodéndron Bethuneianum*, *Escallonia macránthá*, *Passiflora amábilis*, and the rare *Medinilla speciosa*. Mr. Cadness remarked, in pointing out some specimens of *Gardénia Stanleyána*, that they would only thrive in a black sandy heath soil ; loam and manure being injurious to this and the *Devoniána* ; they also like a degree of shade and will not stand the heat of our summer sun.

The camellia house was filled with a quantity of young plants, and a few fine flowering specimens ; a fine *Wilderi*, one of the large old plants, was superb, with a dozen or more fully expanded flowers ; it must rank at the head of all the rose colored varieties ; *Fördii*, *Lándrethi*, *Sáccoi nova*, and *Brooklynia*, of similar color, are fine, but they are each wanting in the fine petal of *Wilderi*. We did not see any new varieties in bloom.

With the thermometer at 4° below zero, and the snow a foot deep, we found but little comfort in walking over the premises, and as the severe winter had retarded all flowering plants, we thought best to defer a more prolonged notice to a more favorable opportunity.

Residence of Thomas Richardson, Esq., Westchester.
In company with Mr. T. Dunlap, and through his polite invitation, we visited the residence of Mr. Richardson, situated on the road leading from Harlem Bridge to West Farms. The grounds comprise upwards of seventy acres, only a portion of which, however, are devoted to the lawn and pleasure ground, flower and kitchen garden, &c. The house is a large square building in the Grecian style, with colonnades extending to the roof. The greenhouse is a fine range upwards of one hundred and thirty feet long, span-roofed, di-

vided into three compartments, and is not yet completed, it being the intention of Mr. Richardson to erect a handsome circular house at the end of the range nearest the mansion.

Entering the greenhouse, which is the middle compartment, we found it filled with a good collection of camellias, azaleas, cinerarias, &c. To the right of this is the peach-house and grapery; to the left, the stove, which contains a collection unusually rich. Of begonias there are upwards of twenty-five species, among which we noticed the following as somewhat remarkable for their habit or foliage, none of them being in bloom:—zebrina, macrophylla, tomentosa, and heraclifolia. In a little compartment separated by a glass partition, and forming a kind of entrance to the camellia house on the north side of the range, we found quite a number of ferns and hothouse plants, growing in the most healthy and vigorous condition:—*Cypripedium venustum* and *insignis*, *Anemia fraxinifolia*, *Adiantum*, *Polypodium phytillodes*, and a handsome banana reaching to the roof.

The camellia or greenhouse was now gay with a fine collection of seedling cinerarias, in which Mr. Chalmers, the excellent gardener, has been very successful in producing some beautiful varieties well worthy of a name; few of the English seedlings that we have seen were equal to them; and it only needs perseverance and attention to enrich our collections with as fine kinds as have been produced abroad. Mr. Chalmers has some fine specimens of *Tropæolums*, which were now just beginning to grow. The roots are strong, and as they are trained to neat wire trellises they will make a beautiful appearance when in full bloom. We are surprised that these plants are not oftener seen in choice collections, for they well repay all the care which may be bestowed on their cultivation. Four or five kinds of *Epacris* were coming into bloom, and a variety of other plants which we did not find time to note down.

We were highly pleased with all the arrangements of Mr. Richardson's house; it is thoroughly built, of good proportions, and is decidedly one of the prettiest structures of the kind in the neighborhood of the city. Mr. Chalmers, the

gardener, thoroughly understands his profession, and everything under his charge was in the most vigorous condition. When the whole range is completed and filled with plants, we have no doubt it will equal, if it does not surpass, any similar collection in New York.

Nursery Grounds of Mr. T. Dunlap, Harlem.—The great object of Mr. Dunlap is to produce an immense quantity of cut flowers, suitable for bouquets, &c., the central situation of his store in Broadway giving him the opportunity to build up a large business in this department of gardening. Consequently we found that several new ranges of houses have been erected during the last four or five years. We think we counted nine houses, all span-roofed but one, about seventy-feet long each, and preparations were now making to put up another. They are appropriated to the various classes of plants; one a camellia house, two for miscellaneous plants, one propagating house, and the others for roses, which is, after all, *the* flower.

The houses are all sunk in the ground, which is a dry bottom, about three feet, so as to bring the front plate about even or slightly higher than the ground level. They are arranged internally with a shelf about three feet wide on each side, and except the rose houses, with a double stage in the centre. The rose houses have beds on the centre, in which the roses are planted, and more thrifty and beautiful specimens we never saw. Some of the Lamarques and Solitaires were nearly the size of a stout tree at the base, and with shoots trained up to the rafters which had just been headed in. These roses flower abundantly up to the first of January, when they are pruned, and in the course of two months again begin to display their flowers. This is the true way of cultivating the rose when a fine quantity of flowers are wanted, as under pot cultivation, the strong growers, particularly Lamarque, Solitaire and Chromatella, do not repay the room they occupy.

The camellia house contained a fine stock of plants in the most healthy and vigorous condition. We here saw in bloom for the first time Mr. Dunlap's white seedling, called

alba perfecta, one of the most beautiful of all the whites, and said by good judges to be far better than any which have yet been raised; the flower was too far gone for us to form a correct opinion of its merits; the petal is as round and free from notch as *Wilderi*, and the color is the purest white, full to the centre, slightly cupped, and opens very freely, a great desideratum in every camellia; for many of what would otherwise be considered the best camelias fall short in this characteristic.

In the hothouse the gorgeous *Bignonia venusta* was yet in bloom, though most of the flowers had been cut; it is one of the finest greenhouse climbers, and no collection should be without it. Planted out in a large box or tub, near a warm flue or at the furnace end of the house, it will ramble all over the roof and fall in the most brilliant festoons from rafter to rafter, forming the most conspicuous feature from December to March. One house is wholly occupied with *heliotropes* in pots for cutting.

Mr. Dunlap grows the Neapolitan violet to great perfection, and in quantities greater than we have ever seen at any other place. We are surprised that this fragrant flower is not grown more extensively by all amateurs, as well as gardeners, especially where quantities of cut flowers are wanted, particularly fragrant ones. Nothing can be more desirable for this purpose than the violet, as it requires nothing more than a frame, and protection from freezing, to bloom abundantly from January to May. Mr. Dunlap had four or five ranges of frames, nearly one hundred feet long each, and we think he stated that he gathered *several hundred dozen* blossoms for New Year's day.

Mr. Dunlap's gardener is a German, and has only had charge of his place for a year; but we could see a great improvement in the condition of the plants, everything now being in the very best order.

The establishments of J. B. Lenoir and Mr. Boll, the former on the Bloomingdale road and the latter on Forty-Sixth street, we found in fine order, each containing a good stock of the usual plants grown for the city trade. Among

the new things at Mr. Lenoir's, we saw a monthly carnation of French origin, very pretty, and distinct. At Mr. Boll's, we saw, among his stock of camellias which was large, some new seedlings which promise well. Mr. B. has already raised several fine ones, and we have no doubt some of those now coming into bloom, from the appearance of the buds, will be double and handsome. *Euphórbia Jacquinæflóra*, at both places, is exceedingly well grown, and we noticed some remarkably fine specimens with spikes of flowers a foot or more long. Roses and camellias constitute the principal stock of plants grown by Mr. Lenoir and Mr. Boll.

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

RUSTIC BASKETS FOR FLOWER-BEDS.—Amongst the many modes and appliances called into use for the embellishment and diversification of the flower garden, perhaps there are none that deserves a greater amount of patronage than the rustic basket. Its construction is simple and cheap, and it furnishes us with the means of bringing into happy combination plants of various habits. Of course the size and shape of the basket, which in different situations may be various, must be kept in view. One I have lately used is of the simplest form, being a mere circle constructed with staves of birch or elm, with the bark on; it stands about 18 inches above, and is sunk as much below the surface of the lawn; its diameter is 10 feet, over which are two arches, formed with six iron rods, crossing at 5 feet above the top of the basket. The centre was planted with *Ageratum odoratum*; then two rows of scarlet geranium; the edge with the old trailing variety of ivy-leaved geranium; and *Tropæolum canariensis* was trained over the handles: altogether it had a pleasing effect. The ivy-leaved geranium harmonizes well with the rough bark that forms the sides of the basket, to which it should be fastened with a few shreds, to prevent its being broken by the wind.—(*Gard. Jour.*, 1852, p. 35.)

ADVANTAGES OF GROWING CURRANTS AND GOOSEBERRIES AS STANDARDS ON LONG STEMS.—By the sides of the borders of the kitchen garden here, I have been, for the last five or six years, planting gooseberries and currants as standards, with long stems. They take up little room, being generally planted between the dwarf pear and apple trees, and it is astonishing what a quantity of fine clean fruit may be grown by this method. I train them about four feet high in the stem; and it requires a stout stake to keep them upright when well laden with fruit. My selection of goose-

berries is principally of the following kinds, all for the dessert, namely:—the Warrington, (for hanging very late,) Champagne, Early Yellow, Crown Bob, and Ironmonger. Before the fruit begins to get ripe, the bushes are wrapped up in a piece of Nottingham gauze net, and are then safe from all attacks of insects, birds or bipeds. The Warrington can be retarded to the end of September; but, being a very prickly variety, and the young shoots growing downwards, they require to be clipped with a pair of shears before putting the net on, to save the net. The other varieties can be served the same way, especially if the bushes have attained to the size intended. At one time, before I tried this method of growing gooseberries and currants, the blackbirds and thrushes had generally devoured all the fruit before it was well ripened; and to keep red currants late they had to be covered with garden mats, but in wet autumns the fruit rotted for want of the circulation of air. Now I can keep red currants till the end of November quite plump and clean; and some of the bushes of about six years' growth had about a peck of fruit on them each this last year. I find the best varieties of red currants for hanging late is Knight's Late Red and the Raby Castle, and the best variety of black the Black Naples.—(*Gard. Jour.*, 1852, p. 35.)

ANOMATHECA CRUENTA.—The great worth and excellence of this little bulb are not sufficiently known or valued. In my opinion, there is nothing better for small beds, or for planting near the edges of large ones or borders. It will answer exceedingly well under the following treatment;—The first week in March, the bulbs should be potted in equal parts of loam, dung, and leaf-mould, with a good mixture of sand, putting four bulbs in a pot, and placing them in a pit with the other bedding plants, until the season arrives for turning out, when they should be planted in a bed of similar compost, without disturbing the roots. They will then, with ordinary attention, grow vigorously, and flower profusely from June to November. If bloom is all that is required, the seed pods should be cut out as the blossoms fall, as that will greatly strengthen the succession flower-buds. Should increase of stock be required, seed may be easily saved, and bulbs raised; they are also readily increased by offsets. The multitude of beautiful scarlet and crimson blossoms makes this plant worthy the attention of the flower-gardener. The bulbs should be taken up before frost sets in, potted in silver sand, and securely laid by for the winter.—(*Gard. Jour.*, 1852, p. 35.)

ART. II. *Domestic Notices.*

DESTRUCTIVE EFFECTS OF THE COLD WEATHER IN WASHINGTON, D. C.—We learn, from an article in the *National Intelligencer*, by Dr. C. G. Page, that the late severe weather has been very destructive to the roses and other plants in the neighborhood of Washington. After stating that

the thermometer at his residence, two miles from the city, fell to the low point of 8° below zero, he remarks:—

"I have noticed here what I never saw in the city, viz., a sudden fall of the mercury immediately after sunrise. On the morning of the 23d instant, the mercury, just before sunrise, stood at 6° , and ten minutes after sunrise, had fallen to zero.* At ten minutes before sunset, the evening previous, it stood at 36° . Such severe cold and such great and sudden changes cannot fail to be, and already have been, very destructive to vegetation. I find, already, some of my best peach trees almost entirely killed, and many extensively injured, while the apple, pear, plum, apricot, fig, and even the forest trees, are all injured, to some extent, by the cold. The grapevines, also, have lost much of their last season's growth. Our ornamental shrubbery will make a pitiful appearance next spring. Nearly all the tea roses have been killed outright. The noisettes are but little better off, while the bourbons and remontants stand it thus far very well, though these, where they made a great growth last season, are injured. The bourbons, remontants, and some of the rare garden roses, are fortunately now the favorites among amateurs, and if they survive this season, they will always be safe. In this climate we have thought it safe always to leave our tea roses standing out all winter, merely sheltering them from the sun by cedar or pine brush; but they are all gone this time. The ground having been covered with snow through most of the severe weather, we have a lingering hope that the roots may survive. Almost every plant above ground has suffered to some extent. The blighting blast has blown its baneful breath upon them all alike.

"For the sake of forming some comparative estimate of the severity of this season, I will cite a few examples. During the last winter there was not a time in which full-blown and fresh specimens of heart's-ease could not have been gathered in my garden. This winter they were all cut down in December, and have not made their appearance since. For many winters past the tender tea and noisette roses have stood out without any protection, in many cases, and under a genial climate many of them had attained an enormous height and size. But now, so far as I have observed, (and I have examined hundreds,) they are killed entirely down to the ground. I have heard of a very large *chromatella*, (*cloth of gold*), in the city, which has escaped. If so, this is an exception. The common *Chinese blush daily* is a good test, and with me this also has been cut down. But a better test is the rose improperly called the white *macrophylla*. I have some of these that have partly escaped, and others entirely killed. These facts will be regarded with interest by florists at the north. Rose culture has taken the place of every other flower mania, and from the great loss of plants they will be in demand for some time to come."

* NOTE.—A farmer from Fairfax county, Virginia, who has kept a record of weather, crops, &c., for seventeen years, informs me that on the cold Tuesday morning, week before last, the thermometer was 10° deg. below zero. He had frequently noticed the sudden fall of the mercury about the time of sunrise. The cause appears to me to be a slight movement of the cold air before it has derived any appreciable warmth from the sun.

The loss of the fine plants, which we saw there last March, must certainly be severely felt; all the tea and china roses ordinarily stand the winter without injury, or with only the loss of a few of the ends of the shoots, which would of necessity have to be pruned off. We saw hundreds of these plants in the gardens and nurseries around the city, many of which were three or four feet high. Lovers of the rose can readily appreciate the loss of such fine specimens.

The remarks of Mr. Page satisfactorily settle the question in regard to the relative hardiness of trees raised in a warm or cold latitude. While the peaches "are almost entirely killed," and the apple, pear and plum, "injured to some extent" with the thermometer at 8° below zero, our own peach trees, in our nursery, with the thermometer 12° below zero once, and from 6° to 10° below zero, several times, are not harmed so much as a single flower or twig, and apples and pears never wintered better.—Ed.

ART. III. *Horticultural Societies.*

ALBANY AND RENSSELAER HORTICULTURAL SOCIETY.—The annual meeting of the society was held at the State Agricultural Rooms, February 4th, 1852,—V. P. Douw, President, in the chair.

Mr. Wilson, from the committee, reported the names of the following persons for officers for the ensuing year, who were duly elected:—

President—Herman Wendell, M. D.

Vice Presidents—E. P. Prentice, B. B. Kirtland, D. T. Vail, William Newcomb.

Secretary—B. P. Johnson.

Treasurer—Luther Tucker.

Managers—V. P. Douw, J. McD. McIntyre, J. M. Lovett, L. Menand, E. Corning, Jr., C. P. Williams, A. F. Chatfield, J. S. Gould, E. Dorr.

On motion of Mr. Newcomb, a vote of thanks was tendered to V. P. Douw, Esq., for the efficient and satisfactory manner in which he had discharged the duties of the office of President of the society, for the past two years.

The following resolution was adopted:—

Resolved, That it be recommended to those to whom premiums shall be awarded during the year, to leave the same in the Treasurer's hands, to form a permanent fund for the benefit of the society, and thus enable it to increase its means of usefulness.

The constitution of the society was amended by making the annual fee of membership \$1, instead of \$2, as heretofore.

Meetings and exhibitions for 1852, are to be held on the 22d June, 6th July, and 14th and 15th September. Annual meeting, 3d Wednesday of February, 1853.

The following committees were appointed for 1852:—

Fruits—Dr. Herman Wendell, chairman; V. P. Douw, E. Dorr, B. B. Kirtland, D. Thomas Vail.

On Greenhouse Plants and Greenhouse Flowers—Wm. Newcomb, chairman; J. S. Gould, W. A. McCulloch, William Janes, A. F. Chatfield.

On Gardens—Dr. Wendell, chairman; B. P. Johnson and C. P. Williams.

On Flowers—J. M. Lovett, chairman; E. N. Pratt, J. McD. McIntyre, E. Corning, Jr., J. Mayell.

On Floral Designs, Bouquets, &c—S. E. Warren, chairman; J. M. Lovett, J. B. Plumb, A. French.

On Discretionary Premiums—E. P. Prentice, chairman; Dr. T. Vail, Wm. Cooper, Jacob Henry, S. Morgan.

On Essays, and on Establishing Synonymes of Fruits—Joel Rathbone, chairman; Amos Brigs, Luther Tucker, John H. Willard, A. T. Richards.

On Vegetables—R. F. Johnstone, chairman; Dennis Belden, Dr. John Wilson, Wm. S. Shepherd, E. E. Platt.

On Arrangements for Exhibitions—J. McD. McIntyre, chairman; J. S. Walsh, Elisha Dorr, J. Dingwall, D. D. T. More, William Thornburn, James Wilson, Erastus H. Pease.

The following reports of committee, and awards of premiums were made:

FRUIT.—The committee on fruit report that they have examined the several collections of fruit exhibited, and have awarded the premium for the largest and best collection to Dr. Henry Slack, of Guilderland, and the premium for the second largest and second best to William Newcomb, of Pittstown.

They also recommend for complimentary notice two several displays of grapes exhibited by E. A. Wood, of Watervliet, and David Cary, of Albany.

FLOWERS.—The committee have awarded the premiums as follows:—

To L. Menand, for best six plants in pots, \$3.

To L. Menand, for best display of cut flowers, \$3.

To E. Corning, Jr., for best flat bouquet for vase, \$3.

To James Wilson, for largest display of cut camellia japonicas, \$3.

To E. Corning, Jr., for best six varieties, viz., Prattii, Double White, Lady Hume, Imbricata, Fimbriata and Henri Fauve, \$3.

To L. Menand, for best three varieties, viz., Fordii, Lady Hume and Amabilis, \$1.

To E. Corning, Jr., for three primroses, \$1.

GENESEE VALLEY HORTICULTURAL SOCIETY, Rochester, N. Y.—The annual meeting of this flourishing society was held in Rochester on the 7th of February, when the following officers were elected:—

President—Patrick Barry, Rochester.

Vice Presidents—1, M. G. Warner, Rochester; 2, J. J. Thomas, Macedon; 3, H. P. Norton, Brockport; 4, R. G. Pardee, Palmyra; 5, John Donellan, Greece.

Corresponding Secretary—Leander Wetherell, Rochester.

Recording Secretary—Jos. A. Eastman, Rochester.

Treasurer—J. H. Watts, Rochester.

Committees on Fruits—John J. Thomas, H. E. Hooker, M. G. Warner, J. N. Seward, E. S. Hayward, J. C. Cambell, J. W. Bissell, H. N. Langworthy, L. Burr, George Ellwanger, Jos. Frost.

Committee on Trees, Shrubs and Flowers—C. J. Ryan, W. Webster, R. Donellan, W. King, A. Frost, J. Buchan.

Committee on Vegetables—James Vick, Lewis Bates, J. Gray, J. Rapelje, H. Hooker, J. Buchan.

Committees on Entomology, Finance, &c, were also chosen.

Dr. J. A. Warder, Cincinnati, Ohio, and Dr. W. D. Brinkle, Philadelphia, were elected honorary members of the society.—(*Rural New Yorker.*)

CINCINNATI HORTICULTURAL SOCIETY.—This society held its annual election on Saturday, January, and the following officers were elected:—

President—Stephen Mosher.

Vice Presidents—N. B. Shaler, W. S. Hatch, Jacob Hoffner.

Treasurer—William Stone.

Recording and Corresponding Secretary—J. A. Warder.

Council—M. M. Williams, S. M. Carter, John G. Anthony, S. S. Jackson, T. H. Teatman, M. Orange, M. Kelly.

Flower Committee—W. Haver, John W. Fadden, J. C. Ferris, S. S. Jackson, Thomas Knott.

Fruit Committee—F. V. Petticolas, Mr. Orange, S. M. Carter, M. M. Williams, D. M'Avoy.

Vegetable Committee—A. Worthington, Jacob Hoffner, Anthony Pfeiffer, Patrick Conriduie, R. B. Davies.

President Ernst closed his official duties by introducing his successor with a few pointed and happy remarks, recommending the hearty support of the members to be accorded to the new incumbent.

Mr. Mosher, on taking the chair, thanked the society for their votes, and said that while he should endeavor to discharge his duties, he would throw himself upon the society,—to the members he should look for aid in governing the proceedings.

On motion of Mr. Buchanan, the thanks of the society were unanimously voted to the retiring president, for his zeal and efficiency as an officer during his long occupancy of the important post he has just vacated.—(*Hort. Review.*)

ART. IV. *Massachusetts Horticultural Society.*

Saturday, January 3d, 1852.—Exhibited—FRUIT: From J. F. Allen, seven varieties of grapes. From W. C. Strong, two varieties of grapes. From C. E. Grant, Isabella grapes in fine state of preservation. From H. Vandine, Glout Morceau pears, fine.

Fruits tested. Beurre Langlier pear, from Hovey & Co. Groom's Princess Royal pear, from the President. Four varieties of apples from Rev. J. Richardson, Jr., Greenfield. Those marked No. 3 proved decidedly superior to the other samples.

In Committee, it was unanimously voted, that the thanks of the Committee be presented to the Hon. J. S. Cabot, their late Chairman, for the efficient, able and impartial manner in which he has presided over their deliberations.

Jan. 10.—An adjourned meeting of the Society was held to-day. The President in the chair.

On motion of C. M. Hovey, it was voted that the report of the Committee, awarding a prize to Capt. Lovett, be laid over to be confirmed at the stated meeting in April.

On motion of C. M. Hovey, it was voted that C. M. Hovey, A. D. Weld and H. Bradlee, be a Committee to consider the propriety of awarding a medal or piece of plate to J. M. Ives, of Salem, for the introduction of the Marrow squash.

The Chairman of the Committee of Arrangements reported that the next Annual Exhibition be held on the 21st, 22d and 23d of September next.

On motion of B. V. French, the thanks of the Society were voted to S. Walker, Esq., the late President, for the impartiality with which he has presided at the meetings, his uniform courtesy to its members, the ability displayed in the administration of its affairs, and the fidelity with which he discharged the varied trusts confided to him.

Mr. Breck moved to reconsider the vote, passed at the last meeting, referring the subject of the preservation of fruit to the Fruit Committee. Entered on the books. Adjourned two weeks, to January 24th.

Exhibited.—**FLOWERS:** From M. P. Wilder, thirty camellia flowers, among which were *Saccoi nova*, *alba plena*, *fimbriata*, *Binneyi*, *Sherwoodii*, *Donckelaeri*, *Juliana*, *Eclipse*, *Colvillii*, *Chandleri*, &c. From A. Bowditch, several camellias, viz.: *alba plena*, *fimbriata*, *Chandleri*, *variegata*, *Fordii*, *tricolor*, *americana*, &c.

From Hovey & Co., *Bignonia venusta*, a free growing greenhouse climber, bearing a profusion of beautiful orange colored flowers in large clusters, very showy.

AWARD OF PREMIUMS AND GRATUITIES.

CAMELLIAS.—For the best display of camellias, to M. P. Wilder, \$8.

For the second best, to A. Bowditch, \$6.

GRATUITY.—To Messrs. Hovey & Co., for fine specimens of *Bignonia venusta*, \$5.

FRUITS.—From E. Wight, apples, Fall Jenetting. From J. Stickney, pears, Jaminette. From Henry Vandine, pears, Glout Morceau.

January 17.—*Exhibited*—**FRUIT:** From G. Merriam, pears, Catillac. From the President, pears, Columbia, handsome specimens. From S. E. Cones, Portsmouth, N. H., apples, Fisher, handsome specimens of a long-keeping apple.

January 24.—An adjourned meeting of the Society was held to-day. The President in the chair.

Mr. Wilder, Chairman of the Mt. Auburn Committee, reported that they had attended to their duty of settling with the Treasurer of Mt. Auburn, and that the net receipts for the year ending December 31, 1851, were \$14,741 29; the Society's proportion, one fourth, being \$3685 32; which sum had been received and paid over to the Treasurer of the Society.

On motion of Mr. C. Newhall, it was voted that a committee of three be

appointed to take into consideration the propriety of awarding some token of respect to Samuel Walker, in consideration of his valuable services as President of the Society for the last three years, and for the zeal and industry manifested, and for his faithful performance of various important duties, to the general acceptance of the members of the Society, while under the administration of his predecessors. The President nominated Messrs. C. Newhall, B. V. French and C. M. Hovey for the Committee.

Mr. Breck requested to withdraw his motion for a reconsideration of a vote at the last meeting, which was granted.

On motion of Mr. C. M. Hovey, it was voted that the Pennsylvania Horticultural Society, New York State Agricultural Society, Cincinnati Horticultural Society, Worcester Horticultural Society, and New Haven Horticultural Society, be notified, by the Corresponding Secretary, of the days set for the Annual Exhibition of this Society in September next.

A letter was read from Dr. J. A. Kinnicott, of Illinois, and referred to the publishing committee. Adjourned four weeks, to February 21.

Exhibited.—FLOWERS: From P. Barnes, a very fine Seedling azalea; flowers unusually large, and very clear white.

February 14.—Exhibited—FRUIT: From J. Stickney, Catillac pears. From J. M. Stoddard, Easter Beurré pears, in fine condition. From John Gordon, Prince's St. Germain pears. From A. W. Stetson, Black Hamburg grapes. From G. W. Haven, Portsmouth, N. H., handsome apples, without name; undoubtedly the Ortley Pippen, or Seek-no-Further, of Cox, generally known as the White Seek-no-Further.

February 21.—An adjourned meeting of the Society was held to-day. The President in the chair.

The President, from the Executive Committee, reported that it was deemed inexpedient to require the Treasurer to give bonds; but that in consequence of the increased duties and responsibilities of the office, the salary be increased to one hundred dollars.

Mr. Walker submitted a motion for the appointment of a committee to consider the expediency of subscribing to the fund for the erection of a monument to Gen. Dearborn, in Forest Hills Cemetery, to report at the stated meeting in April. Accepted, and Messrs. Walker, Newhall, and C. M. Hovey, were appointed the committee.

The following letter was read from M. Vattermare, and referred to the publishing committee:

Paris, January 10, 1852.

To the President of the Horticultural Society, Boston.

Sir,—Independent of the series of the "*Annales de la Société Nationale et centrale d'Horticulture*," which I have had the honor of addressing you, through the executive of the Commonwealth, about two months ago, in accordance to our system of international exchange, some of our most distinguished Agriculturists and Horticulturists, anxious to coöperate, as much as they can, to the full realization of this system of intellectual union of nations, have, on my suggestion, placed in my hands the following works, to be presented, in their name, to your most distinguished Society, viz. :—

Le Bon Jardinier, almanack pour l'année, 1851, presented by M. A. Vilmorin. Album Vilmorin, fleurs, rustiques annuelles et vivaces, l'égumes et plantes fourragères peintes d'après nature,—four beautiful colored engravings.

Presented by M. Dusacq,—Catalogue des graines, &c., de M. Vilmorin. Guide de l'agriculteur, par M. Debeauvoys. Manuel de l'estimateur de Biens fonds, par Noirot. Culture des Arbres fruitiers, par Bravy, Horticulteur. Le Jardinier des fenêtres et des appartements, par M. Robinet. (Millet.) Almanack du Jardinier par les rédacteurs de la Maison rustique du 19m Siecle, 1852. Journal d'agriculture pratique et de Jardinage publié par les rédacteurs de la maison rustique, from July, 1843, to December, 1849, 6 large 8vo volumes. See M. Dubocq's letter in the appendix.

These gentlemen firmly believe that among the greatest advantages to be anticipated from this new and peaceful link between nations, are the almost daily intercourse it will create, and the establishment of agricultural and horticultural cosmopolitan fairs between the several societies of the two worlds, of the productions of their soils. They hope, that by mutual efforts, and thanks to the inventive genius of the age, means will be found by which the most delicate plants, flowers or fruits, will travel without danger from clime to clime; and that before long we shall have, between Europe and America, exchanges of their respective local fairs; pouring, thus, in the bosom of each other's nation, the best productions of their soil, the fruits of their labors and investigations. Is not such associations, Sir, better calculated to secure peace, happiness and plenty, than any other scheme ever submitted to the philanthropic world!

I therefore call, most earnestly and most respectfully, the attention of the Society towards the letters from the horticultural and agricultural societies of France, as well as those written by Messrs. Dusacq, Beequerelle and Vilmorin, from page 10 to 17 of the appendix of my report, to his Excellency the Governor of the Commonwealth of Massachusetts, begging of the Society to give these letters the greatest publicity possible.

Hoping to receive, soon, an answer, which will enable me to inform our societies that, sympathising with their views and hopes, the Horticultural Society, of Boston, has appointed Corresponding Committees to theirs, to labor simultaneously together, to find out the best means of realizing our great end; that of establishing a strong and compact association of all the agriculturists and horticulturists of the two worlds, whose only *politic* will be the improvement and diffusion of everything, in their line, likely to secure the welfare of all the members of the human family.

With great respect, I have the honor to be, Sir, your very humble servant,
ALEXANDER VATTEMARE, *Agent of the Commonwealth of Massachusetts for International Exchanges.*

Gen. H. K. Oliver, Lawrence, and Mm. M'Mullen, Cambridgeport, were elected members. Adjourned two weeks, to March 6th.

Exhibited.—*FLOWERS:* From Hovey & Co., several beautiful seedling azaleas, among them a white variety, a very large and superb flower; also

three seedling cinerarias. From P. Barnes, a plant of *Pimelia Nieppergiana*, new, with white flowers, very handsome.

FRUIT: From the President, fine Columbia pears. From S. Downer, Jr., very fine Easter Beurré pears.

HORTICULTURAL OPERATIONS

FOR MARCH.

FRUIT DEPARTMENT.

AFTER the severe cold weather of January, the weather became more moderate, and the early part of last month was exceedingly pleasant and mild, which accelerated the thawing of the snow; this was followed on the 10th with a warm southerly rain, which nearly took off the remaining portion; but on the 12th it was cooler, with an addition of an inch or two of snow, a sufficiency, with what remained, to still keep the ground from the danger of being penetrated by frost. This milder weather and more sunshine has been exceedingly favorable to early forcing, and for the past three weeks vines have come forward rapidly, and now look in fine condition.

GRAPES, in the early vinery, will now be out of flower and swelling their fruit. See that the laterals are all carefully tied out to the trellis and stopped at one or two joints beyond the fruit; two is better if the vines are a fair distance apart, but only one if they are crowded for room. Give air moderately, but not so as to admit cold draughts. Keep the house well watered in good clear weather, in order to render the air mild, genial and suited to the favorable swelling of the fruit. Vines in greenhouses will now begin to break, and must have more attention. Syringe morning and night; tie up the vines to the rafters no oftener than they break well, allowing the top to depend from the trellis. This will have a tendency to bring out all the "refractory" eyes, and form a more even set of spurs. Raise the temperature very little until the middle of the month, when it should be increased. Vines in the open air, of the hardy kinds, should now be pruned.

PEACHES AND FIGS, in pots, will now be in bloom; for a succession, bring in a fresh supply. Water carefully and guard against the red spider.

ORCHARDS may yet be pruned.

SCIONS may yet be cut, as we directed last month.

GRAFTING may be commenced the last of the month, when there is a great deal to do. Root grafting may now be completed.

STRAWBERRIES, in pots, now introduced to the greenhouse, on a warm shelf near the glass, will ripen their fruit early in May.

FLOWER DEPARTMENT.

CAMELLIAS will now begin to grow, and will require to be liberally supplied with water, and occasionally with liquid manure; syringe freely over

the foliage every fair day, and shade the plants if the sun is too strong or likely to burn the foliage. Young plants may now be repotted, especially if it is desirable to bring them up into good sized specimens. The general potting may be deferred to July if more convenient.

JAPAN LILIES, potted last month, will now require to have a good situation on the stage, where they can develop their leaves and stems. A fresh lot may now be potted for a successional bloom.

VERBENAS will now be objects of attention, especially where quantities are wanted for bedding out. Propagate now, and repot plants in small pots, especially if fine specimens are wanted to bloom in the greenhouse in April and May. Seeds may be sown now for producing new varieties.

PELARGONIUMS will soon begin to show their buds, and will require an abundance of air to prevent their drawing up or assuming an etiolated appearance; water occasionally with liquid guano: syringe once in a while to keep the foliage clean, and fumigate as often as the green fly makes its appearance.

CINERARIAS will now be in full flower, and will require to be occasionally watered with liquid manure. Repot such as still need it; look out for the green fly, which soon destroys the beauty of the plants.

FUCHSIAS will now need repotting, if not already done. Now is a good time to propagate from cuttings.

DAHLIAS should now be looked after; such kinds as are wanted for early blooming may now be potted and placed in the greenhouse or hotbed, if one is at hand. Cuttings may be taken off when the new shoots are three inches long.

CACTUSES should now have more liberal watering. Grafting may be done now with safety.

ACHIMENES should now be potted off singly, in two-inch pots, and placed in the warmest part of the house, where they can be shaded from the sun. A new lot may be started for a succession.

PANSIES, in pots, should now be shifted into a larger size, say a seven-inch pot, if they are intended for exhibition, or for producing blooms for that purpose.

ALSTROMERIAS may now be potted for a succession.

EUPHORBIA JACQUINEFLORA, done blooming, should now be headed down and placed in a warm dry place till they begin to grow.

POINSETTIAS may be treated in the same way.

GLADIOLUSES may now be potted for early blooming.

GLOXINIAS AND **GESNERAS** should now be potted and placed in a warm part of the house.

ROSES, in small pots, raised from cuttings last summer, will now require a shift into larger pots. Water with liquid manure.

SCHIZANTHUSES should now be shifted for the last time.

ERICAS should be kept in the coolest house, and in the coolest part of that house, where the temperature is kept as low as 35° at night, if possible. Repot if they require it; and propagate from cuttings for a young stock.

EPACRISES require the same treatment as *Ericas*.

NEMOPHILAS should now have another shift into larger pots.

ORANGES AND LEMONS may be repotted now if they require it. Now is a good time to graft.

AZALEAS, now in bloom, should be liberally watered.

FLOWER SEEDS of many kinds should now be sown in pots, and placed in a hotbed, if one is at hand, viz.:—Stocks, Coxcomb, Amaranthus, Balsams, Sweet Alyssum, Portulaca, Brachycome, Asters, &c., &c.

Attend to the propagation of all kinds of plants suitable for bedding out.

FLOWER GARDEN AND SHRUBBERY.

But little can be done in this department this month. The weather, generally, continues so cold, with frost, that not much can be accomplished. Everything may be got in readiness to commence operations.

TULIPS AND HYACINTHS are the first to require attention. On the first mild days, towards the last of the month, they will require to have a portion of their covering removed; but to be laid near by to throw over in case of frost.

HERBACEOUS PLANTS, Roses which have been protected, and other things, may have their covering removed according to the advance of the weather. If warm, certainly remove the covering; but if sharp cutting winds continue, only take away a small portion.

LAWNS may be looked after as soon as the snow is gone, and if they need enriching, now is a good time to apply a top dressing of guano.

SHRUBS, &c., may now be pruned and cleared of dead wood and branches, and such as require it, tied up to stakes or trellises.

VEGETABLE DEPARTMENT.

March will be a busy month in this department. Hotbeds should now be made for a succession; and with the advancing season a greater variety of vegetables should be planted. The early beds, which will now have become exhausted of their great heat, may be employed for planting such kinds as only require a moderate degree of warmth; and those now to be made up should be reserved for cucumbers and melons, which require a bottom heat of 80 to 90 degrees. If the beds already made up are hilled out with these, renewed heat may be obtained by applying fresh linings of hot manure.

In the open ground, should the weather be moderate, without frost, peas may be planted at the earliest moment. Potatoes may be started in the hotbed, and then planted out in a warm mellow soil, will give a very early supply for the table.

Seeds of cabbages, lettuces, radishes, peppers, cauliflowers, broccoli, celery, &c., may now be planted. Those sown last month will have made such fine plants by this time that they may be transplanted, so as to have abundant room to make fine plants for removal to the open ground in April.

Prepare land for planting. Trench and dig as soon as the ground is dry and forward all kinds of work as much as possible.

THE MAGAZINE OF HORTICULTURE.

APRIL, 1852.

ORIGINAL COMMUNICATIONS.

ART. I. *Notes on some of the new or recently introduced varieties of Fruits, which have been exhibited during the year 1851.* By HON. J. S. CABOT, President of the Mass. Hort. Society.

THE following observations, concerning some of the newer varieties of fruits, for a testing of whose quality some opportunity has been afforded during the past season, are herewith offered for such disposition as may be thought proper. As, however, the examinations upon which these remarks are founded have been confined, in the main, to a few specimens of the different varieties, produced for, perhaps, the first or second time, and even such specimens not always in the most perfect state, the deduction therefrom of a conclusive opinion respecting the quality of these fruits, as was remarked in a similar previous communication, would not be justifiable, nor is any expression of such opinion now intended. Our experience in the cultivation of fruit is now sufficient to warrant the assertion, that the produce of a tree in its earlier stages of bearing is by no means always a true criterion of the quality of the variety; that maturity or a state approaching maturity may be necessary, and with those of foreign origin it is even perhaps possible that some acclimatizing, or the becoming adapted to a soil and climate different from those of the place of such origin, by some process of nature

may be requisite, to enable trees to produce their fruits in the highest state of perfection.

The more marked distinctive features of the past season, were a copious supply of rain in the earlier, and a decided drought in the latter, part ; the ground, during the first part of the previous winter, having been protected by, and in the last part bare of, snow, during which period there was some severely cold weather. An opinion, that the winter exercises great influence upon fruit trees, affecting their subsequent growth, fruitfulness, and vigor, will, it is believed, hereafter be more extensively entertained than at present, as the facts in relation to this matter are more thoroughly investigated. When a tree in the spring and earlier part of the season seems vigorous and healthy, we are apt to suppose that it has passed in safety through the preceding winter, and impute to blight or some other cause any disease that may subsequently develop itself, when, perhaps, a thorough investigation and careful examination would prove it more properly attributable to the effects of the previous winter.

The past season seems to have been particularly propitious to most descriptions of stone fruit ; cherries, plums and peaches having been produced in great profusion, and, especially cherries, of almost surpassing excellence. The crop of apples, on the contrary, was by no means abundant, and, of pears, hardly an average. This remark, with respect to pears, is not, however, of universal application, the crop of some cultivators having been not only abundant, but very superior in quality.

The favorite winter pear of the year, judging from the attention that specimens of them when exhibited appeared to attract, has been the Glout Morceau, and a change in opinion, with respect to this variety, seems in progress among cultivators of the pear. This pear has not heretofore been, in general, highly appreciated ; indeed, some growers had become so discouraged respecting it as to have regrafted their trees ; for with some, soon after their setting, the young fruit turned black and dropped off, while with others the quality of the fruit was indifferent, and even that but sparingly produced. But the fine quality of this pear the past year, and

the size and beauty of the specimens of it exhibited, has produced a change of sentiment in its favor, and it bids fair now to be considered as worthy of a very extended cultivation. To what this superiority, for the past year, should be attributed cannot of course be positively asserted; but to presume that it may have arisen from the circumstance that this variety having been introduced some years since, the trees have become thoroughly acclimated, or have reached a state approaching maturity, would not, perhaps, in the absence of facts leading to a different conclusion, be a very unreasonable supposition.

With these introductory observations, a description, for the most part necessarily brief and imperfect, of such new varieties as have come under the writer's observation, will now be attempted. The newer fruits, examined during the past year, have consisted mainly of strawberries, cherries, apples, and pears; the different varieties of the last named constituting, of such, by far the largest proportion. Beginning, then, taking these fruits in the order of their ripening, with the

STRAWBERRIES.

Mr. Lemuel Capen raised and exhibited the past season a SEEDLING STRAWBERRY, with berries of a large size, some of which were of a cockscomb shape, while others were of a conical form, and in color of a dark red, but of whose flavor, bearing properties and other qualities, no information is possessed. And Mr. Isaac Fay, a seedling, named by him

JENNY LIND. This last named variety was a handsome berry, very solid, of good size and good flavor, the plant producing it being a staminate. Mr. Fay entertains very favorable impressions with respect to its proving a valuable acquisition. Further examinations have tended to confirm the opinion heretofore entertained and expressed respecting the

SEEDLING STRAWBERRY of Mr. Samuel Walker, the late President of the Horticultural Society. In the grounds, and under the cultivation of that gentleman, it is certainly, for a staminate variety, an abundant bearer, and, for fine flavor, stands well, even when tested by the Boston Pine, and other ac-

known fine flavored varieties, as standards. Plants of this variety are, it is understood, to be sent out by Mr. Walker this spring, when opportunity will be afforded to test its qualities in various soils and situations, and under different modes of culture, and thus authorize the assignment of its definite position.

CHERRIES.

BELLE D'ORLEANS Cherry is a very early variety, and therefore, perhaps, desirable. It is of good size, in color a light red, sweet, though with hardly sufficient flavor to give it a place among those of the first class for excellence. Ripens about June 20.

BIGARREAU GABULIS, OR **MONSTREUSE DE MEZEL**, is a very large cherry, dark colored, resembling somewhat, in appearance and flavor, the Black Tartarian, and ripening at about the same time with that variety.

CERISE DE XAVIER, **LEMERCIER**, AND **DE SPA**, are cherries, all bearing a strong resemblance to each other, seeming to be of the Morello family. They are of medium size, of a bright red color, and quite acid, suited, therefore, for cooking rather than the dessert. If permitted to hang on the tree till dead ripe, they may, however, in the absence of other varieties, answer for the table.

BIGARREAU NOIR TARDIF. A very good cherry, the darkest colored, perhaps, of all the black cherries, of good size, sweet, and ripening about the middle of July. Promises, both on account of its beauty and flavor, to be an acquisition.

SEEDLING OF THE MESSRS. HOVEY. One of the best, if not the very best new cherry, tasted the past season, was a seedling of the Messrs. Hovey. It was of the largest size, amber-colored, mottled, with a red cheek, had a firm flesh, sweet, high flavored, and was very fine. The present indications are, that this cherry will take a high rank, and become an established favorite.

PEARS.

Among the newer varieties of pears may be mentioned the following, of some of which a description has very probably already been published.

SUPREME DE QUIMPER, a pear of medium size, obovate form, in color yellow, with a red cheek, with a thick stem, sweet, and rather high flavored, promises well, and ripening about the middle of August, may prove a desirable acquisition for such as wish to cultivate summer pears.

MUSKINGUM, an Ohio pear, ripening the last of August, is of a medium size, roundish form, and yellow color, melting, juicy, and high flavored. As the specimens to which the above description refers were not raised in this vicinity, it should be received with the more caution.

POIRE D'AMBRE, ripens early in September, and is a small pear; pyriform, sweet, but of indifferent quality.

COLLINS, a native fruit, raised in Watertown, Mass., of medium size, rather flattened, obovate form, when ripe, greenish yellow, with a fine blush in the sun; brown specks, and little russet at the stem, which is short and thick; juicy, brisk, and very fine. This is not a new pear, but for some reason does not seem much known beyond its place of origin, or to have attracted that attention from fruit growers to which its merits entitle it. Having been tested many years it may, it is believed, be safely recommended as worthy of an extended cultivation. Its season is October.

JERSEY GRATIOLI, a large pear, of obovate form, with a yellow skin, dotted with russet, of a vinous flavor, juicy, and fine.

FREDERICK OF WURTEMBERG, new, and not to be confounded with the variety long known under that name. Large, obtuse pyramidal, with a very long and rather slender stem, yellow skin, and a deep vermilion cheek, very handsome; flesh white, melting and juicy, sweet, sprightly, and of excellent quality. Both this and the Jersey Gratioli are October fruits.

BONNE DE ZEES is a large, oblong pear, with a yellow skin, melting, sweet, and fine.

DUMORTIER, an obovate formed, russety pear, with a rich, sugary juice, and of fine quality.

VESOUZIERE. A pear received under this name fruited the past season, and proved to be a roundish, yellow pear, melting, sugary, and delicious; while one received under the name of Vezouzier, from another source, was a large, dry, coarse fruit, of a pyriform shape, rotting at the heart, and though sweet, deficient in flavor. Whether there are two distinct varieties, so unlike in quality, cultivated in Europe under names so similar, or not, cannot at present be stated. The great similarity in names tends rather to the supposition, that that they were intended to designate the same variety. If so, no means are now possessed to decide which of the above descriptions is applicable to the variety; neither is it certain which of the above names is the correct one, though, if they refer to the same variety, the last is probably so.

BUERRE' TRIGUER is a small, roundish formed pear, of a yellow color, dotted with red spots, that has a short stem, and is sweet and juicy, of a half-breaking texture.

BEURRE' BENOITS. This is a round fruit, little elongated at the stem, of a greenish yellow color, with a short, thick stem, and with russet at the base; high flavored, juicy, melting, and good. The tree is a good grower.

POIRE D'ALBRET, a russet pear, of a pyramidal form, with a stem three-quarters of an inch in length; is melting, juicy, and of a pleasant, subacid flavor.

ADELE' ST. DENNIS, a russet pear, of an obtuse, pyramidal shape, with a stem an inch long, juicy and melting, of a pleasant flavor, though somewhat astringent.

POIRE SEIGNEUR. Form pyramidal, somewhat flattened, color a greenish yellow, with a little bronze in the sun, with brown specks and patches of russet about the calyx and stem, the latter about three-quarters of an inch long; flesh, greenish white, melting, juicy, sweet, and good. Season, October.

CALEBASSE DE NECKMANN, is of a flattened obovate form, of a reddish brown color, or yellow, mixed with red, sweet, and breaking; rots at the core, and very indifferent in quality.

POIRE CARISIE, a pear of pyriform shape, yellow color, with a red cheek and brown spots, a little russet both at stem and calyx; coarse grained flesh, astringent, and very indifferent.

FONDANTE ROUGE, a small, red pear, covered with black blotches, juicy, but coarse, and breaking, rather astringent, and very poor in quality. As the name "fondante" is in no way applicable to this fruit, perhaps some error was committed in sending out the tree.

POIRE SERRURIER, of ovate form, yellowish green color, with red specks, melting, juicy, and of pleasant flavor. October.

BERGAMOT CRASSANE D'HIVER, a large pear, of very irregular shape, with a thick skin, of a yellow color, with red in the sun; breaking, rather astringent, not much juice or flavor. Season, February.

POIRE NEILL, of medium size, and elongated pyriform shape, of a greenish yellow color, with brown specks, and some russet at stem and calyx; melting, and of a sweet, pleasant, though not high flavor. Ripens in October.

LEON LECLERC, a pear of medium size, pyriform shape, yellow, with red in the sun; juicy, melting, and very good.

CALIOROSA, a large, pyriform shaped pear, of a greenish yellow color, with brown specks; a short, thick stem, and very small calyx; not juicy, indifferent.

DUCHESSE DE BERRI, a round, yellow pear, with green specks; ripe in September; has a short, thick stem, with russet at the stem; juicy, pleasant, and good.

ROUSSELET PRECOCE, a rather large, elongated, pyriform shaped pear, of a yellowish color, covered with brown specks and blotches; a short, thick stem, set on one side; astringent and poor. November.

OKEN D'HIVER, green, with a little bronze in the sun, and some russet about the calyx; flesh white and melting, though rather dry; of a pleasant flavor; very gritty, and woody at the core; stem short, and set rather on one side; keeps till middle of November.

BEURRE' GIFFART, small, and of a rather irregular, pyriform shape; bright, cherry red in the sun, and on the other side

yellow, mottled with red, with reddish specks; calyx closed; stem long and slender; flesh white, tender, not quite melting; flavor pleasant. Ripens middle of August.

SEEDLING PEAR, from Mr. Tudor, of Nahant, of a rather round, obovate shape, with a thick stem, three-quarters of an inch long, of a yellowish green color, tinged with blush; brown specks, of medium size; of a pleasant flavor, sweet and good. Last of October.

BEURRE' JUDES, of medium size, pyriform shape, very long stem; green, covered with brown spots, russet about the calyx; flesh white and melting, though not juicy, sweet, without much flavor; rots at core.

BEZI D'ESPERIN, a large pear, of a greenish yellow color, with a little bronze in the sun, covered with brown specks; has a little russet about the stem, which is long, and set rather on one side; shape, pyriform; flesh white, melting and juicy, of a pleasant, though not high flavor; rots at the core. Season, first to middle of November.

GALSTON MOOR FOWL EGG is of an obovate form, flattened or much swelled out at the middle; above, a medium size, with a stem an inch long, and curved; of a greenish yellow color, with a little bronze red in sun; green and brown specks, with some russet about the calyx; flesh, white and tender, but not juicy, of a pleasant subacid flavor; disposed to rot at the core. Season, middle of October.

This descriptive list of pears might be much extended by very brief descriptions of several new sorts, that have for the first time fruited the past year; but as of such, opportunity was not afforded to obtain, by tasting, some information of their quality, all remarks concerning them will be reserved for some subsequent occasion, when something more than a mere statement of their form, size, color, &c., can be communicated.

APPLES.

But few new apples have come under the writer's observation the past season. Among such, with which he has not before been acquainted, though to many, perhaps, already well known, may be mentioned the following:—

BOWER'S APPLE, a seedling from Lexington, where it was raised. This is an apple of medium size, of a yellowish or straw color, with a blush in the sun. It has greenish specks, calyx rather closed; flesh is of a yellowish white. The peculiarity of this apple is, that some of the fruit from the same tree are acid, and some are sweet; and that sometimes part of the same apple will be acid, and another part sweet. It is a winter fruit.

NORTHERN SWEET is an apple of large size, flattened roundish form, stem short, calyx small, both moderately sunk. Skin greenish yellow, deeply colored with bright red. Flesh white, fine, and full of a very sweet, abundant juice. October and November.

WALWORTH is a large apple, of a conical form, of a yellow color, deeply tinged with blush; stem slender, deeply sunk; calyx small, in a rather deep basin; flesh fine, of a yellowish white color, subacid, rich, and high flavored. September and November.

SEEDLING APPLE, from Mr. I. F. Fay, Northboro', of medium size, roundish form, with a short, deeply sunk stem; calyx open, in a shoal basin; skin of a yellow ground, nearly covered with red, very deep red in sun; handsome, of a pleasant flavor; said to be a great and constant bearer. Season, October.

SEEDLING APPLE, from Mrs. N. A. Haven, Portsmouth, N. H. This is a large apple, of a greenish yellow color, with fine red cheek; flesh firm, with a rich, sweet, fine flavor; keeps till last of April. With respect to the history and origin of this apple no information is possessed. The fact of its being a seedling is assumed. Judging from the specimens examined, it gives indications of being one of the very best late keeping sweet apples.

CONWAY APPLE, rather under medium size, and of a somewhat conical shape; stem long, not deeply sunk; calyx open, in a moderately deep basin; skin yellow, with a little blush in sun, and some red specks; flesh white, very tender, of a pleasant sweet, though not high flavor; rather dry. February.

GRAPES.

The following notice of a grape, that early in the past season was exhibited under the name of Lachmere's Seedling, but which, on trial, was decided to be Macready's Early White, is subjoined, for the purpose of suggesting that it may be found adapted to out-door or garden cultivation, from the circumstance of its ripening very early in the season.

Macready's Early White, a white grape, with small berries, a sweet water, very early.

Salem, March, 1852.

ART. II. *On the Cultivation of Herbs and Salads.* By
J. CUTHILL. From the Gardeners' Chronicle.

GREEN SPEARMINT.—It is very easy to have this all the winter. Mr. Chapman, of Vauxhall, grows whole pitfulls of it, but, like other things, it thrives best in winter with a little bottom heat. Before planting the roots, about two feet of dung or tan are put in, then mould, in which the roots are inserted, covering them slightly. For successional supply, shoots can easily be pulled up and planted in a second bed, four inches apart. Gardeners in a small way might place a little dung on faggots, then on that some mould, and on that the roots; by putting hot dung all round, vegetation would commence immediately. I have often followed this plan in private families.

PEPPERMINT is very largely grown around Mitcham; not less than 300 acres are occupied with it for distillation, peppermint-water being much used in medicine. For new plantations the ground is dunged and ploughed by April, and as soon as the shoots grow four inches in length, they are pulled up with roots attached and planted in rows one foot apart, and six inches distance in the row. If the head is cut off in planting, the lower eyes all grow and make a good crop the first year. Peppermint, like couch grass, sends up

shoots at every joint, and after a couple of seasons or so, the shoots get so crowded that they become weak, the leaves small and hard, the blossoms poor. In this state it is not half so good for distillation. About Mitcham, however, much attention is paid to its after-cultivation. They manure the ground the second year, and dig out furrows half a rod apart, throwing the mould over the beds. If new crops are wanted from these beds, plants are selected for the purpose as described above. The third year the mint is all ploughed down in November; a judicious practice, when we consider the sort of plant we have to deal with. In this way the destruction of all weeds and seed-weeds is effected, as well as the manuring of the land if required. In spring the mint comes up thick, strong and healthy, producing an enormous herbage and amount of flower. It is cut down when just going out of bloom, and carried to the drying houses, for the more its watering juices are evaporated the finer the extract is.

It is not only extensively grown at Mitcham, but I am informed that in the adjoining parishes there are, at least, 300 acres of peppermint cultivated every year. Spearmint is not grown, as it does not yield much juice.

CHAMOMILE.—A good many acres of this plant are grown round Mitcham for the sake of the blooms. The mode of culture is as follows:—The ground is manured, and dug or ploughed, and then harrowed; old plants are lifted, divided into tufts, and planted in rows two feet apart, and one foot six inches distance in the row. The best time for the operation is November, as the plants have time to make roots during the winter; by hoeing and attending to it, the following spring they soon cover the ground. The flowers are gathered in July and August. Chamomile bitter is much esteemed as an excellent tonic, and is also used in beer, &c. One plantation should never be permitted to stand more than a year. Clean land, the distance the plants are apart, and never allowing them to stand more than one year, form all that can be said respecting its cultivation.

The flowers are dried in houses prepared for the purpose, with flues running through them. The flowers are spread on canvass frames, but such as hyssop, horehound, and other cut herbs, are hung upon lines, in sheds, through which plenty of air circulates. Most of the more succulent roots and juicy herbs, however, are artificially dried in storehouses, never in the sun.

TARRAGON.—The late Mr. Chapman, of Vauxhall, may be reckoned among the earliest growers of this useful herb. He was the first to cultivate it on a large scale, for Covent Garden Market, and at that time he had his own price for it. This was about forty years ago. Mr. C's soil just suits it, being a rich deposit of mud and sand, reclaimed from the Thames very many years ago. This soil is four feet deep, in red sand and gravel. Tarragon is generally propagated by dividing the roots and crowns; it is easily made into cuttings, and strikes freely. April is the best time to lift plants for dividing and potting for next year's forcing. Besides borders in front of his houses, Mr. Chapman has generally 1000 8-inch pots furnished with some five and six roots in each pot. These continue in use until that out of doors pushes in March or April. Tarragon is sold in small bunches, about six or eight inches long. It will thrive in a mixture of old tan and mould, but it dislikes a strong clayey soil. This herb is much esteemed by the higher classes in all countries.

SWEET BASIL.—This, like tarragon and other such herbs, is largely grown by Mr. Chapman, who sows it on bottom heat, in low span-roofed houses, in February and March. In such places he has full command of hot water pipes; and as basil, like cucumber or balsam plants, is very likely to damp off, great care is necessary to keep it healthy at that early period of the year. When up, the plants are either potted off in 3-inch pots, or pricked out thickly in boxes, &c. They are again potted singly into 5-inch pots, and hardened off for planting out for summer use. Large quantities of it are pulled up in autumn, and hung up in sheds for winter.

CHERVIL is sown monthly during summer, and sent to market in punnets. For winter use, it is sown out of doors in August, and in pits in September.

KNOTTED MARJORAM is generally sown in low span-roofed houses or pits, on bottom heat, arising from either dung or tan, and covered over with about four inches of mould, in which the seeds are sown, and covered lightly. The best time for sowing is February and March; when up, it is potted, and gradually hardened off for out-door planting, or forced on for early use. What is left in the bed is cut when fit, and sent to market; but as this herb is wanted in winter, in a green state, the crop planted out is cut down in autumn; and when the plants begin to grow they are taken up, potted into 8-inch pots, and put in a pit or house to cut as green marjoram. For this purpose, the plants should not be allowed to ripen seed before they are cut down in autumn.

DRIED HERBS.—Dried herbs are important both for home purposes and those of shipping. They may be either dried in sheds, compressed, or bottled. The common plan of drying and keeping herbs has many objections. They are usually pulled up by the roots or cut off, and hung up in bunches in sheds; and being left open to all changes of weather they lose their fine aromatic flavor, and become musty. Mr. Lindsay, who was once head gardener at Chiswick House, shewed me his plan of preserving herbs in 1834. After drying them in screens before the fire, he had them rubbed through a sieve, and then put into paper or linen bags, compressed, and put away in drawers in a dry room, where they were kept in a dry state, and where the flavor could not escape. Mr. Dickenson, a steward and cook at one of the Cambridge Universities, told me that this plan of keeping herbs answered famously, and that by drying them off quickly they were as green as could be. About Mitcham they are dried in the flued drying houses.

Cooks may perhaps object to herbs being ground, on account of not wishing them to mix with soup, but in that case it is easy to put them into bags. Another way consists in rubbing the herbs through a seive and bottling them.

The following dried bottle herbs may be purchased in Covent Garden Market, viz. :—Knotted marjoram, parsley, thyme, mint, basil, lemon thyme, soup herbs of many sorts mixed, savory, sage, pennyroyal, celery seed for soup, tarragon, mixed herbs for stuffing ; powdered shallot, mushrooms, and garlic ; and why not onions, for long voyages ? Herbs bottled and sealed over keep a long time.

Dried herbs are looked upon by many as not worth notice ; and unless a better plan of saving them during winter is followed out, it is hardly worth while growing them ; but if the drying system were adopted, then they could be dried off-hand in autumn, and at once placed in the hands of the cook, where they would at all times be ready for use.

ART. III. *Descriptions and Engravings of Select Varieties of Pears.* By the EDITOR.

WE continue our descriptions of select pears from our last volume. The past year, much more favorable to the pear crop than the previous one, has afforded the opportunity of not only testing the quality of many of the new and recently introduced varieties, but has given us the chance to fortify our opinions respecting others which had previously fruited, but on younger trees, which had not acquired that strength to enable them to produce specimens in anything like the perfection of older ones of maturer growth.

One or two of the varieties we now describe have not yet fruited in the country, nor have the trees ever been introduced till the present spring. The specimens were among the number sent to the Massachusetts Horticultural Society by M. Leroy, of Angers ; but they were of such evident superiority that we embrace this early opportunity to give a full account of them with outlines of the fruit. We have no doubt, from the fact that other pears sent by M. Leroy, already known here, were no better than our own, that these new ones will prove valuable additions to our collections.

139. DUNMORE. *Hort. Soc. Catalogue*, 3d Ed., 1842.

Three or four of the seedling pears of the late Mr. Knight have attracted much attention among English cultivators, and have been pronounced by their best pomologists to be of the first quality, and for the climate of Great Britain, superior to most of the Flemish varieties. These varieties

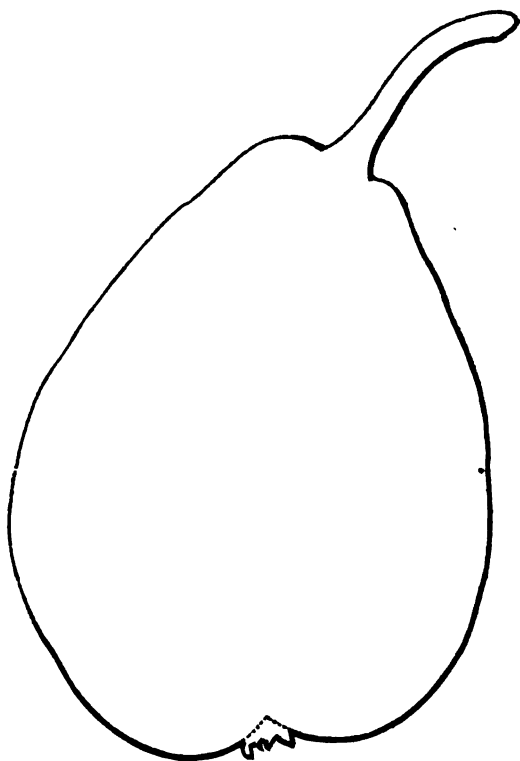


Fig. 11. Dunmore.

are the Dunmore, Monarch, Althorpe Crassane, and Eyewood. All these, with several others, have been described in the *Transactions* of the London Horticultural Society, and an account of most of them copied into our pages, (vol. xiii, p. 154.) At that time they had but just begun to bear fruit, and no correct opinion could be formed of their merits; but

the additional experience of four years has afforded a better opportunity to test their quality; and we may now say that the Dunmore proves to be one of the finest kinds which Mr. Knight produced, excelled only, if excelled at all, by the Monarch.

Mr. Knight states, in his account of the Dunmore, that he has never eaten a Brown Beurré that was better; and Mr. Thompson, in describing it, says it is as good as the latter pear. It has the rich refreshing acidity of the Brown Beurré, and though scarcely equal to it in its best condition, it comes so near it as to rank favorably with that old and excellent variety.

The Dunmore (*fig. 11*) was raised by Mr. Knight, about thirty years ago, but it did not attract general attention until after it had fruited in the garden of the London Horticultural Society, and was described in their *Catalogue* in 1842. Several of Mr. Knight's pears proved of such ordinary quality that the endorsement of Mr. Thompson was necessary to induce cultivators to introduce them into their gardens. The mistake of sending out a wild pear for the Monarch also tended to throw a doubt upon the qualities of all Mr. Knight's seedlings.

The Dunmore has now fruited in various collections around Boston for four or five years, and its reputation as one of our best autumn pears is well established. The tree is an erect and vigorous grower, forming a pyramidal head and produces abundant crops. It grows upon the quince, but not with that freeness which will render it so desirable on that stock. It bears rather young. Wood, dull brownish slate color; annual shoots, rather slender, very erect.

Size, large, about three and a half inches long and two and a half in diameter; *Form*, oblong obovate, largest near the middle, rounding little to the eye, and tapering to the stem where it ends obtusely; *Skin*, slightly rough, yellowish green, somewhat russeted around the crown, rather broadly tinged with brownish red in the sun, and thickly covered with small greenish russet specks; *Stem*, medium length, about one and a quarter inches long, moderately stout, curved,

little swollen at the base, and inserted in a small contracted cavity ; *Eye*, rather large, open, and slightly sunk in an open and nearly smooth basin ; segments of the calyx, short, stout, stiff, projecting ; *Flesh*, yellowish, coarse, melting and juicy ; *Flavor*, rich, subacid, sprightly, vinous, perfumed and excellent ; *Core*, large ; *Seeds*, large, long and pointed. Ripe in September and October.

140. JERSEY GRATIOLI. *Gardeners' Chronicle*, 1844.

In our volume for 1844, (XII, p. 337,) we gave a brief account of the Jersey Gratioli pear, (*fig. 12.*) It had then

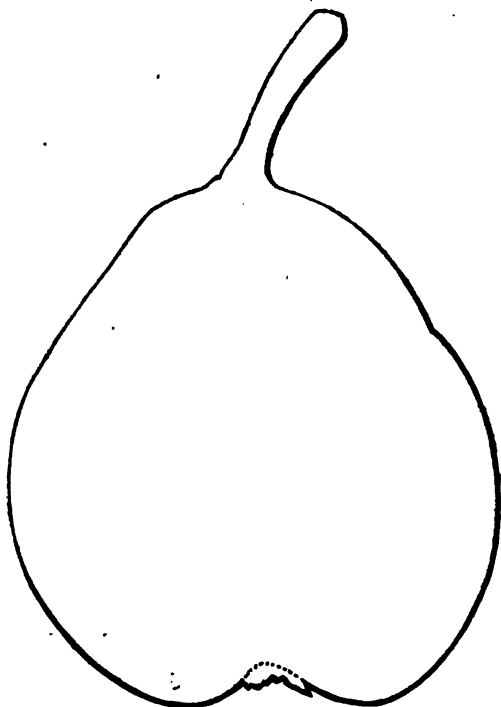


Fig. 12. Jersey Gratioli.

just been introduced into our collections ; but during the last three years, some fine fruits have been produced upon our trees, and we are enabled, after a fair trial, to pronounce it a most excellent fall pear, ripening just after the Belle Lucrative.

The full history of the tree is given in our Magazine in the volume referred to. It is supposed to have originated in Jersey; where, in 1843, only one tree was known to be in existence. Specimens of the fruit were sent to Mr. Thompson, and he described and figured it in the *Gardeners' Chronicle*, in 1844. Mr. Bucknall, who sent the pears, pronounced it, "according to his taste, the finest pear in flavor, and all its qualities, he ever met with;" and Mr. Thompson "fully agrees with his remarks."

Our trees have not yet attained that size and maturity which will enable us to see it in its best perfection; but as far as the experience of three seasons on small trees is any test, it comes up to the reputation given it by Mr. Thompson.

The tree is a moderately vigorous grower, making very stout, short jointed, stocky wood, with a compact, dense habit; and succeeds very well upon the quince. It is a most abundant bearer.

Size, large, about three inches long, and three in diameter; *Form*, roundish obovate, slightly angular, full at the crown, and tapering little to an obtuse point at the stem; *Skin*, fair, slightly rough, thick, pale greenish yellow, somewhat russeted at the base of the stem, and around the crown, occasionally tinged with blush on the sunny side, and thickly covered with very large, round, russet specks; *Stem*, medium length, about one inch long, rather stout, little knobby, curved, and obliquely inserted, with scarcely any cavity; *Eye*, medium size, open, and moderately sunk in a rather large angular basin; segments of the calyx, short, connected, projecting; *Flesh*, yellowish white, little coarse, melting and juicy; *Flavor*, sprightly, vinous, rich, little perfumed, and excellent; *Core*, medium size; *Seeds*, medium size, long, and pointed at each end. Ripe in September and October.

141. BEURRE' RANCE. *Pom. Magazine*, Vol. II, pl. 88.

Beurré de Ranz,	} Act. to Hort. Soc. Cat., 3d. Ed., 1842.
Beurré Epine,	
Beurré de Flanders,	
Hardenpont de Printemps,	
Josephine, (of some,)	
Beurré Noirchain, of some French collections.	

The *Beurré Rance* (*fig. 13*) has been described by Dr. Van Mons, and other pomological writers, as the best of the late winter pears; but though well known in our collections, and

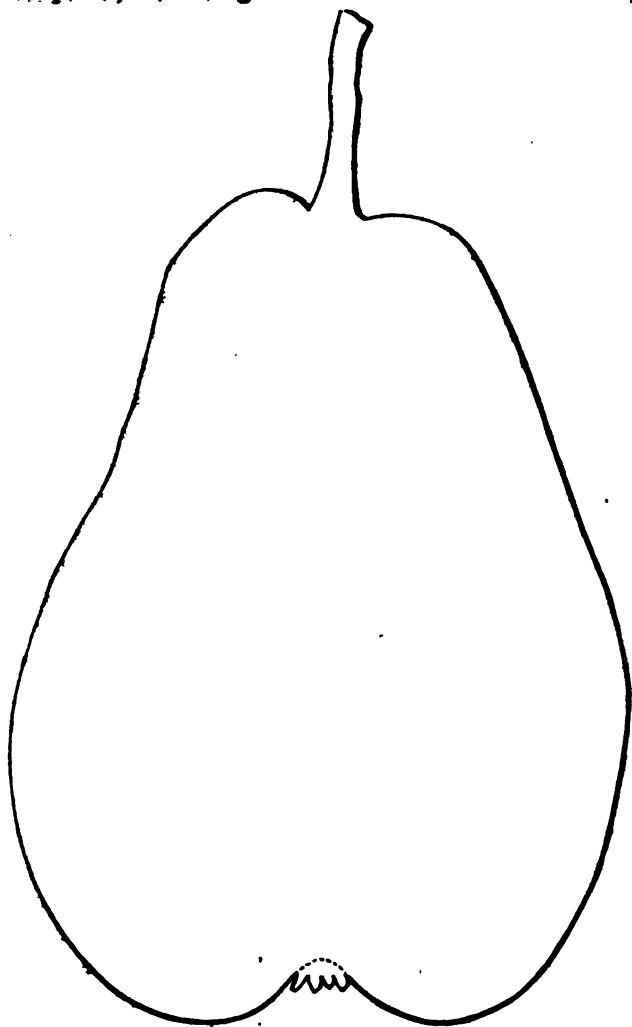


Fig. 13. Beurré Rance.

cultivated for upwards of twenty-five years, we do not ourselves recollect of ever having tasted, or even seen a specimen of this fruit, raised in American gardens, which could lay

the least claim to the high character ascribed to it. So inferior have been the pears, that we have doubted whether we have been cultivating the same pear, so highly praised by Van Mons. And these doubts have been more strongly confirmed, after seeing a single specimen sent to the Massachusetts Horticultural Society, last autumn, from M. Leroy, of Angers. Among the pears were the *Le Curé*, *Beurré d'Anjou*, *Easter Beurré*, &c.; not any larger, or in any way superior, and in some instances inferior, to the splendid pears exhibited by our own cultivators, at the last annual exhibition of the Society. Yet the *Beurré Rance* was a noble fruit, as our engraving of it at once shows. It measured nearly five inches in length, and three and a half in diameter, and weighed nearly a pound. Though prematurely ripened, by the long confinement of the sea voyage, it was the most rich and luscious pear we tasted last season; rather coarse in its flesh, but very melting, juicy, sugary, and highly perfumed.

Now can it be possible that the ordinary looking, knurly, hard, almost tasteless pear we cultivate as the *Beurré Rance* is the true variety? Can it be possible, that when other foreign pears are produced with us in every respect equal to the reputation they have abroad, that the *Beurré Rance* should fall so far short? Can it be that we have not yet, after a quarter of a century, found out how to cultivate it? We certainly cannot think so. We are aware we raise this doubt in the face of almost positive evidence that no such mistake can exist; for it is well known that the *Beurré Rance* has been received from innumerable sources in England and on the Continent, and it does not seem that all should prove incorrect. We shall not aver that they are so; but of one thing we are certain, that no pear worth cultivating has ever been exhibited before the Massachusetts Horticultural Society, since its organization, under the name of *Beurré Rance*, at all like the specimens received from France.

The figure of the *Beurré Rance*, in the *Pomological Magazine*, corresponds with the specimen we have figured, except in size; and the habit of the trees is stated to be straggling and pendulous, which also corresponds with those we have

long cultivated as the *Beurré Rance*; and with such conflicting evidence, it is difficult to come to any satisfactory decision. So fine a fruit should be cultivated everywhere; and to settle the question, we have ordered several trees from Angers, that we may be enabled to ascertain immediately whether we are cultivating the true sort.

The *Beurré Rance* was raised at Mons by the late M. Hardenpont, and was brought to the notice of pomologists by Dr. Van Mons.

Size, large, about five inches long, and three and a half in diameter; *Form*, oblong, or obtuse pyriform, slightly irregular, with an uneven surface; *Skin*, thick, dark green, somewhat russeted around the crown, bronzed on the sunny side, and covered with russet specks; *Stem*, long, about one and a half inches in length, moderately stout, straight, and obliquely inserted in a small shallow cavity on the obtuse end; *Eye*, medium size, open, and little sunk in a regular, abruptly depressed basin; segments of the calyx, short, thick; *Flesh*, greenish white, coarse, melting, buttery and juicy; *Flavor*, rich, sugary, highly perfumed and delicious; *Core*, small near the crown; *Seeds*, medium size, sharply pointed. Ripe from January to May.

142. *VESOUZIERE*, (Leon le Clerc.)

The *Vesouziere* (*fig. 14*) is a new pear, which fruited recently, for the first time, we believe, in our collection. We find no description of it, only in the catalogues of the French and Belgian cultivators, where it is named as a small pear, ripening in December and January.

Our trees were received from M. Jamin, of Paris, and they have now fruited two seasons; and though the fruit ripened the last of October, or early part of November, a month before the time above stated, we do not doubt its being the true variety.

The *Vesouziere* is a moderate sized fruit, very handsome in appearance, and of excellent quality. The tree is of a vigorous, though somewhat irregular habit, and grows freely upon the quince. It appears to be an abundant bearer.

Size, medium, about two inches deep, and two and a half in diameter; **Form**, roundish oblate, irregular, with a ribbed or angular outline, largest in the middle; **Skin**, fair, smooth, lemon yellow, mottled and dotted with bright red on the sunny side, and covered with minute russet specks; **Stem**, long, about one and a half inches in length, moderately stout, and inserted in a rather deep, open cavity; **Eye**, medium size, open, and little depressed in a rather shallow,

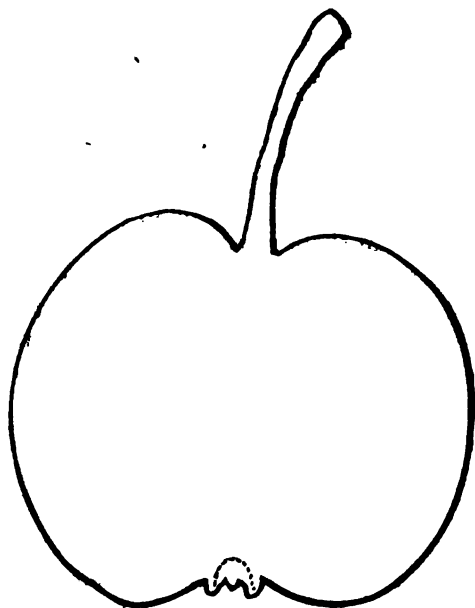


Fig. 14. *Vesouziere*.

open basin; segments of the calyx, rounded, short, projecting; **Flesh**, yellowish white, coarse, melting and juicy; **Flavor**, sweet, agreeable, little perfumed and fine; **Core**, large, slightly gritty; **Seeds**, medium size, obovate, sharply pointed. Ripe in November.

143. *BEURRE' MILLET*, (of Angers.)

The *Beurré Millet* (fig. 15) is another of the pears which have not yet fruited in American collections, but of which specimens were sent to the Massachusetts Horticultural So-

ciety, by M. Leroy. It is a new variety, raised in the garden of the Horticultural Society of Angers. The tree is stated to be of a fine pyramidal habit, vigorous, and very productive. The fruit, of which we can only speak personally, is of the richest quality, vinous, refreshing and delicious. The specimen was in fine order, and the committee were much gratified to find these new varieties sustaining so high a reputation.

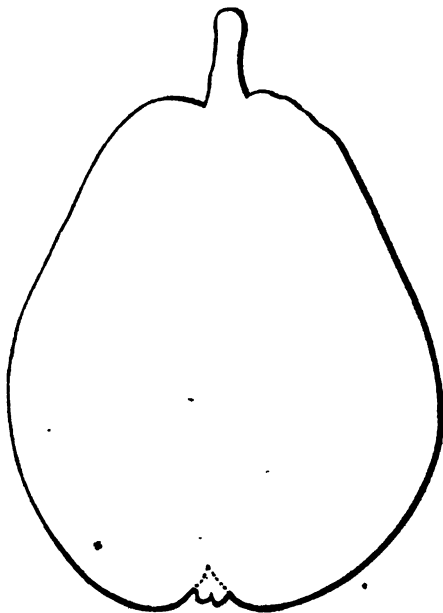


Fig. 15. Beurré Millet.

Size, medium, about three inches long, and two and a half in diameter; *Form*, obovate, or obtusely turbinate, regular, large in the middle, rounding off to the crown, which is small, and very obtuse at the stem; *Skin*, fair, smooth, dull pale yellow, covered with large, pale russet specks; *Stem*, very short, stout, and inserted in a small, contracted, unevenly formed cavity; *Eye*, small, open, and slightly depressed in a small, shallow basin; segments of the calyx, narrow, medium length; *Flesh*, yellowish white, melting and very juicy; *Flavor*, rich, vinous, perfumed and

delicious ; *Core*, small ; *Seeds*, medium size, angular pointed. Ripe from November to January.

144. *DOYENNE' DU COMICE*, (of Angers.)

The Doyenné du Comice (*fig. 16*) is a native of Angers, France, and was raised in the garden of the Horticultural Society of that city. It is a most beautiful fruit, resembling, more than any other pear we can call to mind, the Swan's

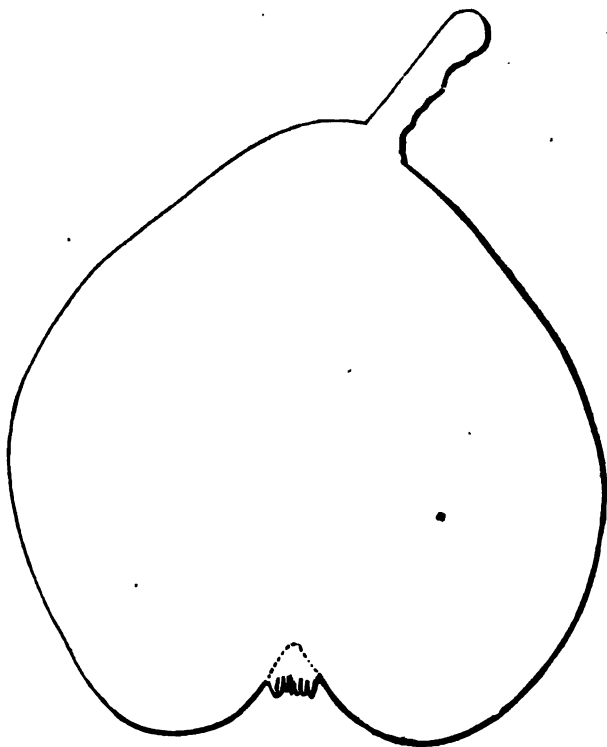


Fig. 16. Doyenné du Comice.

Orange. It is a large fruit, with a beautiful yellow skin, and appears to be one of the finest varieties recently introduced. Though the specimen had been gathered more than a month, yet its fine qualities were readily perceived ; it showed no disposition to rot at the core, and its fine aroma was retained,

as if fresh from the tree. The tree has a pyramidal habit, and is vigorous and productive.

Size, large, about three inches and a half long, and three and a half in diameter; *Form*, obtuse pyramidal, regular, largest in the middle, rounding off to the crown, and tapering to the stem; *Skin*, fair, smooth, pale yellow, russeted around the stem, and dotted with small russet specks; *Stem*, short, about half an inch long, stout, straight, and obliquely inserted, with scarcely any cavity; *Eye*, medium size, open and deeply sunk in a rather large, open, regularly formed basin; segments of the calyx, short; *Flesh*, yellowish, very melting, buttery and juicy; *Flavor*, rich, sugary, agreeably perfumed, and delicious; *Core*, large; *Seeds*, small, dark. Ripe in October and November.

ART. IV. *The Flower Garden: On the Principles of Grouping Colors.* By H. BOCK.

"A garden is a work of art, using the materials of nature."

THE grand object to be attained in the formation of a flower garden, is to produce something that shall be pleasing to the mind, and therefore it must be beautiful and interesting. Its interest may consist in the variety and number of sorts of plants it contains; the individual beauty of each; their associations, their relations and affinities to each other; their progressive growth and ultimate maturity; and above all, their capabilities of adaptation to the desired end.

The principles of Beauty have been defined to consist of Utility, Interest and Unity; these principles include convenience, order, neatness, and everything that conduces to the purpose intended.

To accord with the principles of Utility and Interest, each of the materials employed in any composition must show clearly its adaptation to the end in view; for however pleasing and beautiful a thing may be in itself, if placed in a

position, or used for a purpose to which it is unsuited, it loses that admiration to which its qualities might otherwise have entitled it. In a flower garden, these principles may be applied alike to the beds, plants, and ornaments; for a bed, which in an appropriate situation would excite a feeling of pleasure in the mind, if placed where it was unsuited, would, on the contrary, tend to produce pity and disgust; and the same of plants, whether in respect to size, color or qualities; while in regard to ornaments, instances of bad taste in the employment of statues, vases, fountains, etc., are far too common; and we may not unfrequently see a Cupid squirting water from his mouth in the midst of a basin, or a Diana going a hunting among flower beds.

UNITY.—The first principles in all combinations, whether in lines, forms, colors or sounds, is that of producing a whole. "Congruity of style, or a proper adaptation of the several parts to the whole, uniformity of character and harmony of parts with the whole," says Repton, "are different modes of expressing that unity, without which no composition can be perfect. Now the eye can only see, or the ear hear, one thing at a time. The object seen, or the sound heard, may be composed of various minor objects or sounds, but they must all be united or blended together in such a manner as to be seen or heard at one time, as one object, or as one sound; in order to produce an agreeable effect:" for

"Whate'er its essence, or whate'er its name,
Whate'er its modes, 'tis still in all the same;
'Tis just congruity of parts combined,
Must please the sense, and satisfy the mind."

Every composition ought to consist of three parts, in which the central part ought to be the leading or predominating feature, and to which the others ought to be subservient; while, at the same time, the two sides must bear a certain balance or proportion to each other, in order to render the whole symmetrical and satisfactory to the mind.

Contrast and variety are also great elements in beauty, and may be displayed in the size and shape of the beds, and in the heights, colors and habits of the plants. At the same

time, due harmony must prevail, so that violence is not done to the principles of unity and symmetry, by making some of the beds very large, and the rest very small ; or by placing tall plants in small beds, and *vice versa* ; but the size of the beds should decrease in gradation from the largest to the smallest, and the height of the plants must be in proportion to the size of the beds. Their general dimensions, also, should bear a due proportion to the size of the whole, so that we may not produce a large garden composed of a great number of very small beds, or a small garden composed of beds of a large size. And moreover the whole garden should not only be in harmony in all its parts, but should also harmonize with the surrounding scenery ; and as a flower garden is confessedly an artificial object, while no attempt should be made to conceal or disguise its artificial character, but, on the contrary, its distinctiveness or individuality ought to be maintained, it therefore becomes necessary, when placed amid natural scenery, that, in order to make the artificial harmonize with the natural, the transition from the regular lines and forms, and gardenesque appearance of the one, to the irregular lines and forms, and picturesque appearance of the other, should not be sudden or abrupt, but should intermix with, or gradually melt into each other, so that no definite mark may exist where the one ends and the other begins.

To proceed with the arrangement of colors. It is found that in nature there are only *three* original or primary colors, red, blue, and yellow. From the union or mixture of these three, in pairs, all other colors or tints are produced. Thus, yellow and blue produce green, red and yellow produce orange, red and blue produce purple ; and by varying the mixture and degree of intensity of each, all other colors or tints may be produced at pleasure.

It being the case that when certain colors are placed in juxtaposition, the brilliancy of each is impaired, and a disagreeable or discordant effect is produced ; while on the contrary, when certain others are brought in contact, the brilliancy of each is heightened, and a pleasurable effect is produced in

the mind by the harmony or concord which is found to exist, precisely as in the case of chords in music. It has been satisfactorily demonstrated, especially by Chevreul, that it is the opposite or complementary colors, which, when placed together, produce harmony, and thus we have at once a principle for our guidance; and I as believe it will be admitted that in flower gardening it is to the greatest brilliancy that we ought to aim, it follows that we should bring only those colors together which afford the greatest contrast with each other, and not as some have recommended, those that will subdue each other's brightness; for however necessary this may be in dress or interior decorations, I cannot imagine a case in flower gardening where the *slightest* necessity exists for its practice.

The following is a simple method of finding the opposite color of any other we may wish to employ:—Form any number of concentric circles, divide the first into three parts, the second into six, the third into twelve, and so on indefinitely; then in the first, place the three primary colors, red, blue and yellow, and the same in the adjoining spaces in the second circle; in the alternate spaces of the second, place the mixtures as above mentioned, which will then contain red, purple, blue, green, yellow, orange, and it will be found that red is opposite to green, purple to yellow, and blue to orange; by continuing the same process through another circle, we shall have twelve different shades of color, and so on indefinitely.

It may here be mentioned that, in gardening, *white* is substituted for green, for which it answers the purpose even better, for white being merely the absence of color, it may be used to separate any two discordant colors.

In applying these principles to the grouping of colors in flower gardens, we first attend to the ground upon which they are to be laid down; that is, whether on turf or on gravel, and if on the former, which is what is called a cold color; the warm tints, reds and yellows, ought to prevail, in order to be more effective by the contrast; but if on gravel, which is itself of a warm color, blues and greens should predominate.

In a linear arrangement the following may be the order of succession:—Red, white, blue, orange, purple, yellow, rose, white, pale blue, orange scarlet, indigo, straw or lemon color, maroon or claret white, scarlet, etc. In a circular arrangement, with a central bed surrounded by others, we may take any color for the centre, and in the others, place those colors which afford the greatest contrast; for instance, supposing a group of five surrounding a white centre, they may be scarlet, blue, orange, rose and purple; with the centre blue, those surrounding may be orange, white, scarlet, yellow, rose; with a yellow centre, the others may be purple, pink, blue, white, red; the centre red, the others may be purple, yellow, blue, orange, white, and so on. Another method of grouping produces a good effect, where the surrounding masses are all of the same color, with the complementary color in the centre; and also in single beds, where the margin and the centre are respectively of contrasted colors, as yellow margined with purple, or the contrary, *red* with white, etc. Another method sometimes adopted for large beds is to have zones of various colors, and supposing the centre to be *white*, the first zone may be scarlet, second purple, third yellow, fourth blue, fifth orange, etc.; always taking care to finish with a warm color if the bed is on turf, and a cold color if on gravel.

In a geometrical flower garden it is, of course, impossible so to make the arrangement but that some colors, other than contrasted, shall be in contiguity; all that we can do, therefore, is to take care that each bed shall have at least *one* other of its complementary color in contact with it; and when we are under the necessity of repeating the same, or discordant colors, if we use alternately dark and light tints, the ill effect will be in great part counteracted; and in this way we may arrange varieties of the same genus, as dahlias or verbenas, in which the whole of the primary colors do not occur.

In selecting plants for flower gardening purposes, three qualities must be sought for, viz.:—The time of flowering, the height, and color; and even with our great increased

resources, it is a matter of no slight difficulty to provide a sufficiency of sorts containing the desired requisites for the different seasons of the year.

In proportioning the height of plants to the size of the beds, the following rule appears to be tolerably correct:— That the plants ought not to exceed six inches in height in a bed eighteen inches wide, nor increase more than six inches for every foot that the beds increase in width.

The best time to determine upon future arrangements is when the plants are in flower; as we can then observe the suitability of each sort, and the effect of different combinations, as also be enabled to judge of the effect of alterations, either in heights or colors, and by making notes, and sketching out rules for our future guidance, and at the same time availing ourselves of every new variety or species that may be suitable, we may then be enabled to progress in improvement from year to year, without limitation.

Hawthorn Grove, Dorchester, March 5, 1852.

ART. V. *Floricultural and Botanical Notices of New and Beautiful Plants figured in Foreign Periodicals; with descriptions of those introduced to, or originated in, American Collections.*

NEW SCARLET GERANIUMS.—Few plants are so admirably adapted for bedding out, or planting in masses in the border, as the Scarlet geraniums. They flower profusely from June until checked by the frost; and the brilliant effect which they produce is scarcely equalled by any other plants. Until within a year or two, however, the kinds have been tall or rambling growers, and less suited, from their gross habit, to some situations in which they have been planted than the verbenas. But this objection has been overcome; through the efforts of cultivators, a class of plants has been produced from the old sorts, not only of a dwarf and compact habit,

and much more profuse flowering, but the colors have been varied in tints, now ranging from *white* to the most fiery scarlet; and besides this, an additional charm has been given them in the texture, size, and coloring of the foliage; some being of various shades of clear green, others green with brownish tints, while others have still an emerald ground deeply edged with white.

The English cultivators have accomplished all this within a few years; and their gardens have been correspondingly enriched by these additions. Our own collections have, however, until the last year, received but few of these new kinds; but we are gratified to see that many of the best are now placed within the reach of all amateurs. Messrs. Thorburn & Co., of New York, Hovey & Co., of Boston, and Mr. Bell, of Lowell, have each imported and propagated, and now offer many fine ones for sale. Two of the best are *Flower of the Day* and *Cerise Unique*, both dwarf and compact in habit, and profuse bloomers; the former has an elegant green and white foliage, and the latter a brown and green one. Mr. Bell exhibited the *Flower of the Day* last year, and it was much admired.

Recently a new one has been raised called *Hendersonii*; a pure white-flowered one, of the scarlet class. It is described as "extremely novel in its way, gives very handsome trusses of elegant white flowers, forming a grand contrast to the splendid rich scarlet flowers of the parent class, which must render it a great acquisition." This is very rare, and has not yet, we believe, been introduced.

VERBENAS.—In addition to our own seedlings, which we have before noticed, and of which we shall give a description in our next, several new English and French varieties have been imported. The following we find in Mr. G. C. Thorburn's new catalogue for 1852:—

- Beauty of Corbeille, (Chauvier,) rosy lilac, fine eye.
- British Queen, (Smith,) pearly white, rosy purple centre.
- Eliza, (Smith,) bluish lilac, purple centre, pink eye.
- Enchantress, (Smith,) rosy pink, lemon eye.
- Exquisita, (Smith,) rosy lilac, centre white, lemon eye.

Grandis, (Smith,) salmon rose, lemon eye.

Madame Clouet, (Dufoy,) rosy lilac, crimson eye.

Mrs. Mills, (Turner,) dark blue, purple eye.

Magnificent, (Jackson,) rich rose.

Viscata, (Nichols,) purple crimson, dark centre, yellow eye.

SEEDLING CAMELLIAS.—Great accessions have been made to our list of American seedlings, which already dispute the palm of excellence with the finest of the Belgian and Italian varieties.

Mr. Kurtz, an amateur of Baltimore, has raised two very fine seedlings; one a blush, distinctly striped with pink, finely imbricated to the centre; and the other a deep rich rose, double, and finely imbricated.

Messrs. Hovey & Co. have produced several exquisite ones, particularly distinct and entirely new in color; one a pure white, elegantly flaked with crimson, with a petal as entire and perfect as can be imagined, and imbricated to the very centre; another, a dark maroon; and a third, a crimson scarlet; both remarkable for form and petal.

Mr. Wilder has a fine new one, of similar color to Wilderi, but larger, and much fuller and better formed, though not so good a petal; he has also others of less merit, but far superior to many of the foreign kinds which have had a high reputation.

Messrs. Winship & Co. have also a seedling very handsome, something in the way of Duchess of Orleans, but rather better, being a freer bloomer.

Already many of the American seedlings have the highest reputation in Europe, and these recent varieties will add greatly to the merit of our productions, and render them more eagerly sought after by amateurs of this splendid flower.

NEW HELIOTROPES.—Corymbosum, Gem, lilacina, and rep-tans, are the names of four new ones; the latter was exhibited before the London Horticultural Society in 1850, and described as of the most "extraordinary perfume, and highly desirable for a bouquet." Each of these are great improvements on the old ones.

166. *IMPA'TIENS CORNIGERA* Hook. HORN BEARING BALSAM.
(*Balsaminaceæ.*) Ceylon.

A tender annual; growing three feet high; with rose and crimson flowers; appearing all summer; increased by seeds; grown in a good rich soil. *Bot. Mag.*, 1852, tab. 4622.

A new and pretty Balsamine, raised from seeds received at Kew gardens, where it flowered all last summer and autumn, grown in the stove or hot house. In our climate it would most likely require the same treatment as the common balsam. The leaves are large and long, and the flowers appear at the axils, and are of a pale rose, tinged with crimson. If it does not ripen seeds it may readily be increased by cuttings. (*Bot. Mag.*, Jan.)

167. *MACHERANTHERA TANACETIFOLIA* De Cand. TANACE-
TUM-LEAVED MACHERANTHERA. (*Compositæ.*) New Mexico.

A half hardy biennial; growing two feet high; with purplish flowers; appearing all summer; increased by seeds; grown in any good soil. *Bot. Mag.*, 1852, tab. 4624.

An aster-like looking plant, with showy purple flowers nearly two inches in diameter, and a fine tansy-like foliage. It has a procumbent, half shrubby habit, with branching stems, and a slightly downy foliage. Originally seen by Humboldt in cultivated gardens in Mexico, but found by Dr. Wright, in New Mexico, who sent seeds to Kew. It flowers all the summer months. (*Bot. Mag.*, Jan.)

168. *RANUNCULUS CORTUSEFOLIUS* Willd. CORTUSA-LEAVED
BUTTERCUP. (*Ranunculaceæ.*) Madeira.

A half hardy perennial; growing two to four feet high; with yellow flowers, appearing in summer; increased by division of the roots and seeds; grown in good rich soil. *Bot. Mag.*, 1852, tab. 4625.

"Unquestionably the handsomest of all buttercups yet known to botanists. The flowers are not only large, more than two inches across, but of a singularly glossy yellow color; and although a native, as it would seem, exclusively of the Canary Islands and of Madeira, it is quite hardy." The leaves are large, orbicular and reniform, three to five lobed, and the stem, branches and leaves are hairy. Flowers in panicles. At Kew it has been treated as a half-hardy plant, being kept in a frame during winter. (*Bot. Mag.*, Jan.)

REVIEWS.

ART. 1. *Rural Homes, or Sketches of Houses suited to American Country Life, with Original Plans, Designs, &c.* By GERVASE WHEELER. 1 vol., 12mo, pp. 298. New York, 1851.

THE improvement in the rural architecture of the country is apparent to any one who has been the least observing of its progress, or who feels any interest or desire to see a more refined style of building take the place of our common country houses. To architectural works we owe much of this improvement; and hence we gladly hail the appearance of any book, however so little it may aid in this progress, provided it leads in the right way, to a higher appreciation of the beautiful, a better knowledge of fitness and expression, and a purer taste for true art.

It has been the fault in regard to most of our American works on architecture, that they have been mere compilations upon the subject, with an abundance of nice plans, never carried into execution; which are taking to the eye, and look, as Mr. Wheeler says, "sweetly pretty on paper," but have little other merit. They can rarely be put to the test of execution; and if they can, only at an expense of three times the sum at which they are estimated.

Now we shall not deny that there is merit in works even of this description; they lead to the study of Rural Art, they awaken a sense of its importance, and in the end cause good results. In the infancy of an art, for it can be only in its infancy with us, it would be unreasonable to expect more; but as its practice becomes more extended, as country houses spring up with a rapidity never before known, we may anticipate more thorough, detailed, and useful treatises; laying down the principles of true taste, and their application to all the conditions of cottage, villa, or suburban building.

The work of Mr. Wheeler is something of this character.

We cannot admit that we like all the plans he has given, though they are nearly all copies of such as have been erected under his care. A few are excellent, particularly the suburban villa, page 107, while one or two are but little to our taste.

It is the general character of the work, and its common-sense, practical character which pleases us most. The views of Mr. Wheeler, in regard to the choice of a site for houses, general arrangements, the suitableness of materials to particular styles, and his concluding observations on architecture as a fine art, its influence on the mind, heart, &c., each treated upon in separate chapters, are highly valuable; and though not particularly new, are discussed in a familiar and pleasing manner, which cannot fail to interest every individual about to build.

We select a few specimens of Mr. Wheeler's style. The first is on the essential characters of the Gothic style.

Another style, for which wood is a suitable material, is that called "Gothic."

Unfortunately, this beautiful and eminently rural style has been vulgarized and greatly abused; and I know that many persons of pure taste are hence frightened when the idea of "Gothic" is presented to them as the style suggested for their home.

Excuse me now, if I speak a little scientifically. Gothic is an architectural classification of principles of erection now determined simply to mean *pointed*, in contradistinction to those principles which recognized rectangular lines as their fundamental basis; thus classic architecture, as it is called, with its upright columns and pilasters, and its entablature and cornice resting on them at right angles, or springing from them in semicircular curves is very easily distinguished from that style which has its lines all tending upwards to a point, and of which its curves, in every instance, meet in a point. The different periods at which certain styles of pointed architecture prevailed, give the name to its various classes now in use. Rural Gothic is wrought out from these different styles, and though the peculiarities of each period of pointed architecture are very marked, they have become universally so blended in modern domestic architecture, a description of the points of difference in each period is scarcely needed.

But the great principle upon which all were based, and in which all agreed, was reality: every form of even the simplest moulding; every line and portion of the building was contrived exactly to answer the purpose for which it was intended; and in this we will gladly follow the mighty artist-minds of old, while we scorn the petty trickery of servilely copying a bit

here and there of their immortal works, and leaving unnoticed the inborn principle which made each bit of detail beautiful.

A Gothic house, then, is a building, the character of whose architecture is distinguished by the upward direction of its leading lines, and by such curves as may be introduced meeting, or having a tendency to meet, in a point. It may be highly ornamental, or left perfectly simple; but true taste will be outraged if ornament, beautiful as it may be in itself, is introduced where it does not serve some purpose of construction.

The gables, and the windows, and the doors, and the veranda, and ombra, may all be decorated as richly as you like; but it must be their composing parts that receive the decoration; there must be no ornamental work stuck on here and there without meaning and use: too much ornamental wood-work about a house, any way, is a nuisance, and a source of continued expense.

In arranging the outlines of your plan upon the ground, the selection of wood as the material will permit of a more varied and irregular shape than stone or brick, the corners, which, in mason-work, add so considerably to the expense, not being a source of greater outlay. But irregular outline on the ground is apt to involve intricacy of roof; be therefore thoroughly satisfied the latter is going to give you no trouble before you commence.

Dormer windows on the roof are greatly in favor with those who design Gothic houses. Unless they are clear above the eaves, so as to allow the eaves' gutters to run below them in unbroken line, they will, in heavy rains or after a thaw, be sources of great trouble.

A very pretty effect may be attained by cutting off the corners of the shingles before nailing them on, or by rounding them off, or giving them any other form that will work in such a manner as to present the appearance of an ornamental pattern on the roof. The covering of the veranda is generally of metal, but where the slope will allow similar shingles to be used, the effect is not only more pleasing, but the chambers whose windows overlook, are less exposed to the radiated heat from the large surface of metal below.

Those who have noticed recently-erected Gothic country houses, will probably remember that the windows seemed a source of some difficulty; they were either ordinary sash windows, that did not seem to harmonize with the house, or they were such as gave great trouble to the inmates. I would advise, where the character of open tracery is attempted to be given, that it be made solidly and as a fixture outside; being, in fact, as it may well be supposed to be, the ornamental support of the lintel above; and that the part filled with glass be behind and independent, having, however, divisions similar in character to the outer frame. This method of executing an ornamental window will, I think, be found productive of more external and internal effect, and certainly remedies the difficulties I have, in the course of my experience, found to exist.

The next is his advice to persons about to build.

The right to look upon beautiful scenery, is a privilege all possess in

common: those whose means have enabled them to claim ownership in some lovely garden-spot of this beautiful country, have no right to mar the fair harmony of nature by the intrusion of a discord of their own. The purchasers of land, therefore, in the country, cannot, in building themselves a home, follow the bent of their own inclinations so entirely as many would have us suppose. A man has no right to disfigure some noble scene by an unharmonious dwelling: how often this has been done, those who have rambled on the banks of the Hudson (this but as an example near home) can testify. Congruity between home and landscape is secured by no necessarily-increased expenditure. On the contrary, those buildings of most economical and simple character generally possess the charm of fitness which costly structures attempt in vain.

Undoubtedly, the excellence and charm of a home consist in the perfect keeping of the artificial construction with the natural objects and the scenery around. The uniform Palladian Villa, that would be out of place in the mountain gorge, or beside the rocky glen and leaping torrent, will be perfectly in congruity with broad lawns, grouped trees, smooth, widely-stretching glades, and the placid lake. This perfect congruity between home and scenery would be easy of attainment, if the operations of deciding the character and arrangement of the building were less mechanical. The owner of the ground is generally content, if the builder to whom he shows his plans tells him he can deliver to him, by a certain day, and for so much money, a house like the one delineated. How have these plans been probably obtained? If the gentleman or lady about to build possess at all a literary, or even only a picture-book-loving taste, some "*Architectural Design-Book for the Million*" has been turned over, and, after many tea-table discussions upon the merits of the "*Swiss Cottage*" style, the "*Anglo-Norman*," the "*Etruscan*," or the "*Castellated Gothic*," some pretty picture-house has been selected. Armed with that, an architect from the city has been called upon, the picture shown to him, the ground-plan of the house determined, and, finally, a "set of drawings" engaged to be furnished by a certain day, and at a stipulated price.

Probably even this small call upon professional aid would not have been made, had not the builder advised to get some "architect" to "draft the plans," knowing that even the most wretchedly slender skeleton of a plan, if framed by a draughtsman, will be easier to work from than the artistic performances of the amateur employer. The architect has neither a voice nor an interest in the matter,—the drawings are ordered and paid for, as a bale of goods. He has not seen the spot selected for the building; knows nothing of the tastes or habits of life of its future occupants, and is naturally only desirous to get the job done as quickly as possible, knowing, by past experience, that, should he venture any departure from the instructions given him,—however essential they may, to his cultivated judgment, seem,—the drawings will probably be returned to him for correction, and his labor lost. How tame, common-place, and unsuitable the building must be, when erected, my readers will be able to judge. What, then, should be done?

The building should, even to its minutest detail, be studied and determined on the spot; and an architect who has the interests of his noble science at heart, will *always* insist upon the necessity for this very first step. Both the architect and the contemplator of the building must be guided by such simple rules as I will here attempt to state. Endeavor first to be impressed with the suggesting influences of the spot. If the range of vision be limited, the scenery quiet, and possessing a self-contained charm of beauty or grandeur complete in itself, the character of the house may be left more to the bent of the owner's taste, than were the building a prominent feature in an extended range of landscape,—a connecting link in the chain of beauties around. If the first be the case, the house,—governed, however, by certain rules,—may be more fancifully developed, more profuse in details, and more whimsical, than in a situation like the latter. There every outline must accord with the prevailing character of the natural forms around, and the details and architectural features must be bolder, more marked and expressive, in order to be defined by the eye that views them after a scale formed upon the bold fragments of nature's architecture. These considerations are the text from which all rules for the choice of styles may be deduced. General outlines and effects, rather than minutiae of details, are to be studied, to secure congruity between art and nature; the niceties of particular styles are only to be so attended to that they may not conflict with the first great truth of harmony of the general masses. Almost any style may, in the hands of a master, be made suitable for a given location; and there are few modern styles that may not architecturally be moulded to the requirements demanded.

In conclusion, we can recommend Mr. Wheeler's Rural Homes as every way worthy of attentive perusal.

ART. II. *Walks and Talks of an American Farmer in England.* Being No. 3 of Putnam's Semimonthly Library for Travellers and the Fireside. 1 vol., 12mo, pp. 246: New York, 1852.

THIS is the title of a small but rather interesting volume of an American farmer, detailing his personal views of English husbandry, as observed in a leisure journey "a-foot" through the country, in order to obtain a home knowledge of the system, practice, and progress of English farming, and the character, condition, and general intelligence of the agri-

cultural population. The author, Mr. F. L. Olmstead, of Staten Island, New York, is one of our young farmers, enthusiastic in his pursuit of the profession, and though conversant with what has been written by the late Mr. Colman, and other authors, respecting the amateur agriculturists of England, he was desirous to learn more of the ordinary practices of cultivation prevailing among those who laid no claim to the appellation of "high farming."

We are pleased to see a volume of this kind find its way to the public through such a *cheap* source as Mr. Putnam's Semimonthly Library. In any other manner it would fail to reach half the number of readers that it will now do. Every farmer will find in it much that is worthy of being remembered; and those who have no other interest in agriculture than its advancement of our natural prosperity, cannot fail to find it a very pleasant "travelling" or "fireside" companion, from the insight which it gives into the manners, the habits, and natural character of the majority of the people of a country from which we have descended, and from whose system of husbandry we have copied so much.

We had marked several extracts which we had intended to copy, but as we have little room to spare, we must content ourselves with recommending it as an interesting volume to the farmer or general reader.

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

CULTIVATION OF BIGNONIA JASMINOIDES.—Among the many favorites of recent introduction into our plant houses, few are more deserving of attention than the Fuchsia-like Begonia. Its graceful habit, the brilliant color of the flowers, the short time required to have plants in a blooming state, and the abundance with which its blossoms are produced, render it worthy of universal cultivation. To those with whom winter-flowering plants are in demand, this Begonia will be found indispensable, and when well grown and bloomed it cannot fail to be generally esteemed.

The plant being a favorite with me, I aim to have it in flower the whole, or at least the greater part of the year, and to secure this, it is necessary to propagate at two different seasons. In the first instance, cuttings are ob-

tained in the beginning of February, selecting young healthy pieces, such as are not over full of sap, and which are rather firm; these strike freely, inserted rather thickly around the sides of 5-inch pots, and plunged in a close warm frame where the bottom heat is about 75° or 80°. Any light sandy soil will answer. I generally use equal parts of silver sand and leaf mould, the latter passed through a fine sieve and thoroughly mixed with the sand. When the cuttings are well rooted, which will be the case in the course of a month, they should be potted singly in 5-inch pots, and replaced in the propagating frame, and if they can have the assistance of a gentle bottom heat all the better. When the pots become filled with roots, shift into 8-inch ones, and place the plants in a shady corner of the stove, or wherever it may be convenient, provided a temperature of from 60° to 65° is maintained, and a moist atmosphere kept up; but unless they occupy a shady situation, it will be necessary to screen them from the midday sun, as this species is rather impatient of bright sunshine, and if thus exposed, it loses that fine glossy appearance which the foliage presents when in vigorous health. When the pots become filled with roots, a little clear manure-water will be beneficial; and they should be syringed with pure water, morning and evening. By the middle of June, they will require a final shift into 13-inch pots, and should be encouraged to make vigorous growth. With regard to stopping, they merely require to have any over-luxuriant shoot stopped, when it has attained the desired height, so as to regulate the flow of the sap, and induce the formation of lateral branches, upon which the flowers are produced. The stronger shoots should be supported by neat stakes, and tied out, so as to accommodate the side shoots which are to produce the flowers. Managed in this way they form fine bushy plants, commence blooming in October, and continue in flower till March, or even later, if kept in a temperature of 50° or 55°.

A second lot of cuttings should be got in about the beginning of July, and treated as the first, except that after the second shift, which they should receive in September, they may remain in 8-inch pots till February. During the winter they should occupy a situation near the glass, where the temperature may average from 50° to 60°. Early in February a portion of the plants may be shifted into 13-inch pots, after which a slight increase of heat will be essential to their well doing, but when subjected to a high temperature at this early season, they should receive all the light that it is possible to give them. As the plants progress in growth, they must receive attention in the way of stopping and tying, and when the pots become full of roots they should be watered frequently with clear manure. The remainder of the plants, if allowed to remain in their winter pots, and encouraged with a slight increase of temperature, will flower at an earlier period than those which occupy larger pots, or they may be left in a cool place until the middle of March, and then shifted to form a succession to those shifted in February.

This Begonia may be removed to a conservatory, when in flower, where it will continue to produce a constant succession of blossoms during several months; but unless the conservatory is treated something like an interme-

diate house, it will be necessary to place the plants in the warmest corner, and where they will not be exposed to currents of cold air; a situation where they can receive abundance of light, without being exposed to the direct rays of the midday sun will be necessary, in order to have the flowers well colored. After the blooming season is over, the old specimens may be thrown away, to afford space for young plants, which bloom more freely and produce finer trusses.

The soil best suited for this *Begonia* in all its stages is equal parts turfy loam, peat, and well decomposed cow or horse manure. The peat and loam should be carefully broken, and used in as rough a state as the size of the shift will allow; the dung should be carefully mixed with sharp sand previous to being mixed with the peat and loam, this tends to thoroughly separate any lumps, which otherwise would be sure to form a harbor for worms; the quantity of sand should be regulated according to the nature of the loam and peat, enough being added to secure perfect drainage, as this *Begonia* is somewhat impatient of stagnant moisture about the roots. [*Gardeners' Chronicle*, 1852, p. 100.]

SYON HOUSE AND LORD KENYON'S CUCUMBER.—Experience alone enables us to correct erroneous views and false opinions. I have for several years lived under the impression that the variety of cucumber known as Syon House, was preferable for winter cultivation to Lord Kenyon's. Having heard from respectable authorities that the latter kind is decidedly the best, I am able to state with confidence that it is quite correct; not that superiority exists in its being more prolific, but it possesses a robust habit, which enables it to grow vigorously under circumstances which would be fatal to the Syon House. This I have clearly proved during the present winter, having grown both varieties under the same treatment. I have heard it repeatedly stated that Lord Kenyon's and the Syon House cucumber are identically the same; which is incorrect, although there does exist a great similarity in the appearance of the fruit. Both are white-spined: on the Syon House they gradually disappear as the fruit increases; but on Lord Kenyon's they remain till the fruit is fully grown. The color of both is a dark green, and about the same length. From the middle of November till the end of January, the young fruit will not grow beyond an inch or two long, unless they are impregnated, which should only be done when the flowers are dry. —(*Gard. Journal*, 1852, p. 99.)

VERONICA LINDLEYANA.—This graceful plant is not half cultivated to the extent it deserves, the public opinion having in a measure set in against all flowering plants which do not show their blooms in conspicuous colors so as to be seen in the distance. This spurious taste, for I can call it no other, threatens to throw into the shade many of our most interesting herbaceous plants, and the neglect with which they are now regarded is anything but creditable to the admirers of Flora. The subject of our notice is more shrubby than herbaceous, and in habit and hardness akin to the *Pentstemon*, only its flowers are axillary instead of being terminal; but the profuseness with which it produces them, and their graceful appearance when appended to a stalk bearing pretty foliage, must, I think, make it a universal

favorite wherever it has been tried out of doors with anything like a fair chance of success. I generally plant it in mixed borders, and propagate a number of plants every autumn, which I keep, lest a severe winter should kill the stock; otherwise, it seems quite able to stand moderate winters. It seeds also abundantly, so that its increase is an easy matter.—(*Gard. Jour.* 1852, p. 99.)

EPIPHYLLUM TRUNCATUM.—This beautiful plant being a particular favorite of mine, I have read with peculiar interest, in last week's *Journal*, Mr. Cramb's remarks thereon; which may have the effect of raising it into more general notice. To witness the manner in which it is usually treated in the generality of gardens, one would be led to suppose it possessed neither beauty nor interest sufficient to render it worthy of any care or attention. But, when a good specimen plant of it, under judicious management, is to be seen in the month of November, whether its elegance of form, or the color, beauty, and abundance of its flowers be regarded, there is scarcely any plant to be found better adapted for decorative purposes. Having lived at a place where this plant was extensively grown, both in a dwarf and a standard form, I may be allowed to say, that grafting and after-culture is so easily managed as to require no particular notice. The stocks employed for the purpose were *Pereskia Bleo* and *Cereus speciosissimus*; the latter I consider the more preferable, and, if it is about three feet high, with the grafts inserted all round, at a regular distance apart, to within six inches of the pot, and grown in a conical shape, it will be found to have a most pleasing effect. The disadvantage attending the *Pereskia* stock is, after the plant has formed a good head, which will be in the course of four or five years, I have found the stock incapable of transmitting a sufficient supply of nutriment to its graft, which fact has been fully verified by the emission of roots from the young shoots of the *Epiphyllum*. If the woods be properly ripened in the autumn by exposure to the sun and a limited supply of water, they will flower well, and will bear to be forced or retarded, so as to keep up a succession for a length of time during the winter months. I fear that the plan recommended by Mr. Cramb in last week's *Journal*, as an auxiliary mode of treating this plant, will not answer the purpose. The appearance of an *Epiphyllum* stuck on a wiry stem of *Cereus grandiflorus*, with the numerous supporters which it will necessarily require, will not be very ornamental, and the adoption of such practice will doubtless have a tendency to lessen rather than encourage the growth of this noble plant.—*Gard. Jour.* 1852, p. 100.)

POTATO DISEASE.—Last year we gave the result of an analysis, showing the difference of potatoes grown by the usual system and our own from prepared cuttings. 11½ per cent. of starch was the result of the former, and 15½ the latter. We have now again gone through the same process, those of our own being York Regents, now two years removed by prepared cuttings from old stock. The result is beyond our expectation (17 per cent.), and that from the same class, the best we could procure, only 10½ per cent., giving a preponderance of more than one-third in favor of those produced from cuttings, which justifies us in the opinion we hold, that until the proper quantity of saccharine matter is restored to that valuable root we

cannot expect they will produce a healthy offspring. We lost more than one-half of those planted out in April last and early in May, by frost; those planted after the 20th of May, and up to the end of the first week in June, were full crops, and ripened well by the middle of October. In everything novel improvements are found out. None ought to be planted (with cuttings) before the middle of May, leaving the top of the cutting or plant one or two inches above ground, and water them once, should the land be dry. We planted last year five acres with potatoes, the produce cuttings of 1850; they continued in a growing state until the middle of October, the haulm of all other potatoes being withered. Early in the season, in one year more, we trust to get that most useful root up to its original standard, when the expensive mode of planting with cuttings will not be required. There is no part of the potato taken with the cuttings, the process is so far the same as taking Dahlia cuttings; the potatoes must be placed on a good heat, as it is important that the cuttings should be as short a time as possible on the mother plant, as all potatoes, more or less, that do not contain the proper quantity of starch, are diseased, so far that they cannot produce a healthy offspring. It is now six years since we first commenced planting cuttings. Our attention was first drawn to it by the well-known advice a medical man would give as to the rearing the child of a mother in a deep decline, which would be brought up (as is termed) by the hand, or get a healthy nurse. The first three years our experiments were on a small scale, and we did not try their qualities. We have now but little doubt that we shall this year get 18 per cent., which is about the highest standard the root ever contained. (*Gard. Journal*, 1852, p. 100.)

ART. II. Domestic Notices.

MR. G. C. THORBURN, our correspondent, formerly of John Street, New York, so well known to horticulturists, has opened a seedstore in Newark, N. J., where he will be glad to see his old friends and customers. In connection with his establishment he continues the garden at Astoria; where he has been since his retirement from John Street, several years ago. We are glad to see our old friend more directly before the public again, and ready to supply them with all they need in their gardens, whether of seeds, plants, or trees. Ed.

THE STATE OF GARDENING AND GARDENERS IN THE SOUTH.—A correspondent writing from the south sends us a rather unfavorable account of the state of gardening and gardeners in that part of our country, and cautions professional men about emigrating to, or taking situations there. After reciting the annoyances to which a good gardener is subjected, and the neglect which he suffers, after being told, before leaving, that he will "be placed on an equality with all around him," and be allowed plenty of good assistance, he thus concludes his advice to his professional brethren:—

"I have been out here some time; I know exactly how the thing stands; and I could, in one part of this State, give you five names of men who have come out there to live. One brought a large family, and left, after

twelve months, penniless. His successor left after five or six months; another remained eleven months; another after nine; and the fifth holds on during four months. I could mention their names; and I know some of them, in fact all of them, were clever men, and had a right to be better treated. There is no such thing as gardening needed here; gardening here, must come in other times, and from other inhabitants. Nothing but cotton—that is the moving principle to this part of the world; if a newspaper is got, the price of cotton is first. I write *ipse facto* truths, but generally the rule is immutably as I have stated. Do not come out here, then, to earn a living as gardeners or farmers; if you do, you will regret it, unless you will tear through thick and thin. I am an old campaigner; I have been in many an engagement; if you know more of gardening than I do, you must know it, indeed, as well as any man can know it. This is strong! Yes, but is true! And if my real name was seen by many who may read these lines, they would say he is right. It is the love I bear my profession and fellow gardeners that prompts me to this; and as “wit bought is better than wit taught” to *some*, let those who *doubt*, come and judge for themselves. But I have not done yet; and if room is found for me, I will give a true description of gardening in its past and present, and likely to be, future state here,—of men and manners, systems and things, agriculture, horticulture and floriculture; guided by Shakespeare’s motto, to

“Nothing extenuate, nor set down aught in malice.”

I will fearlessly write truth, not leaning to the dark or light side of the subjects. Meantime, gentlemen, I am yours, &c., “A LIGHT IN A DARK PLACE.”

HORTICULTURAL SOCIETY IN NEW YORK.—We learn from the *American Gardeners’ Chronicle*, a new gardening journal in New York, that another attempt is to be made to establish a horticultural society. Three preliminary meetings have been held for the object; and there appears a disposition, at least among the gardeners and professional men, to coöperate and make at least one more attempt. We trust they will succeed. It is certainly surprising that New York and its neighborhood, numbering half a million of inhabitants, should not have a well established and flourishing association. Ed.

ART. III. *Massachusetts Horticultural Society.*

February 28.—Exhibited. FRUIT: From W. C. Strong, Early Virginia strawberry. From H. Vandine, Beurré d’Arenberg and new Long Rosewater pears. From J. H. Watts, New York, Northern Spy apples.

March 6.—An adjourned meeting of the Society was held to-day,—the President in the chair.

Mr. C. M. Hovey, chairman of the Library Committee, made the annual report, which was read and accepted. The report recommended the appropriation of \$150 for the purchase of books for the year.

The President, Corresponding Secretary, and W. S. King, were appointed a committee to consider the propositions in M. Vattermare's letter.

The President, M. P. Wilder, and B. V. French, were appointed a committee to consider the subject of admissions to the weekly exhibitions of the Society.

The books and drawings received from M. Vattermare were placed in the hands of the Library Committee, and the Corresponding Secretary was directed to return the thanks of the Society to M. Vattermare. Adjourned two weeks, to March 20th.

March 13.—Exhibited. FLOWERS: From Hovey & Co., six fine azaleas, viz:—Coronata, Leucomegestre, and three seedlings; also a flower of their Seedling camellia, first exhibited three years ago; one of the most beautiful of its class; ground color, pure white, flaked with rose and pink; petal, perfect, without notch or indentation of any kind, slightly cupped, and imbricated to the centre.

From M. P. Wilder, a seedling camellia, of similar color to Wilderi, but larger and fuller in the centre, very fine; also flowers of other seedlings.

From P. Barnes, twenty-five pots of hyacinths. From A. Bowditch, five azaleas and four seedling cinerarias. From Winship & Co., a seedling camellia, very handsome; color, blush, striped with rose, imbricated.

AWARD OF PREMIUMS FOR AZALEAS.

AZALEAS.—For the best six varieties in pots, to Hovey & Co., \$6.

GRATUITY.—To A. Bowditch, for azaleas and cinerarias, \$4.

FRUIT: Hubbardston Nonsuch apples, in a good state of preservation, were exhibited by George S. Dowse.

Specimens of the Ledge Sweet were shown by Mrs. A. Haven, Portsmouth, N. H.

This is the late, long-keeping sweet apple, which received such high commendation from the Committee last year, and for which the Society awarded the silver medal. It fully sustains the reputation accorded to it the past season. It having proved a seedling, Mrs. Haven has given it the name of Ledge Sweet.

March 20.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The President reported that the Committee, appointed for that purpose, had considered it expedient to charge a fee of 10 cents for admission to the weekly exhibitions, and packages of twelve tickets for \$1.

It was voted that the Corresponding Secretary prepare the tickets and cause the same to be advertised.

A letter was read from T Glover, relative to the models of fruits which he had prepared by order of the Society, and referred to the Executive Committee. Meeting dissolved.

Exhibited.—FLOWERS: From J. Nugent, a fine seedling verbena and roses.

FRUIT: From H. Vandine, Beurré d'Arenberg and new Long Rose-water pears.

HORTICULTURAL OPERATIONS**FOR APRIL.****FRUIT DEPARTMENT.**

April is the busiest month of the year. The rapid advance of spring, in our climate, requires that everything should be accomplished in a very short time. Winter is hardly over, and the frost out of the ground, before warm weather sets in, starting all vegetation into rapid growth; and but little more than the single month of April can be counted upon to do all the heavy work of the farm, the orchard and the garden. Snow four inches deep, and scarcely a sign of vegetation now appears, (March 25,) and in all probability, fruit trees of all kinds, excepting apples, will be in full bloom by the 10th or 12th of May.

Such is our climate, and the industrious gardener must be prepared for it. No time should be lost as soon as the ground is in good condition to plant. It is, however, quite useless to do anything before it is in proper order; to plant while it is yet wet and cold, is only attended with inconvenience, loss of time and loss of trees. If our advice, already given, has been attended to, all preliminary labor will have been performed, and consequently valuable time saved, and much more work will be accomplished.

GRAPES, in the most forward houses, will now be swelling their fruit rapidly, and the bunches will need thinning, which should be immediately attended to. Continue to keep up a genial atmosphere by damping down the walks once or twice a day, according to the weather. Prune off all laterals beyond the fruit, and rub off superfluous shoots. Vines in green-houses will soon be in bloom, and will need more attention. Tie in all the spurs as they advance in growth, and nip off the ends two joints beyond the fruit. Give sufficient air to keep the plants from drawing up, and do not force on the vines by too large fires at night. When in flower, raise the temperature slightly. A careful gardener will see that both grapes and plants do not suffer. Vines in cold houses may now be uncovered and tied up to the trellis; syringe freely, till all the eyes are well broken and the fruit-buds appear. Vines in the open ground should be now tied up to the trellis, and put in order for the season.

PEACHES, in pots, will now have swelled their fruit to the size of large peas. Keep up a moderate temperature, and see that the trees do not suffer from want of water at the roots.

ORCHARDS may now be safely pruned, the rough bark scraped off, and the trunks washed with diluted whale oil soap, or Capt. Lovett's wash, recommended in our volume for 1850.

SCIONS may yet be cut.

FIG TREES should be repotted, if not already done.

GRAFTING should be continued, finishing with the cherries and plums first. Root grafting should be completed at once.

RASPBERRY PLANTATIONS should be uncovered.

STRAWBERRY BEDS should be uncovered.

CURRENT and GOOSEBERRY BUSHES should be immediately pruned.
TREES of all kinds should be planted now.

FLOWER DEPARTMENT.

The remarkably long winter, and its severity, have required a greater amount of fire heat than usual to keep up a good temperature. This, as we have before had occasion to say, leaves the plants in a poorer state than when less heat is required to counteract severe cold. They are more drawn, do not have so good a color, and are less prepared to resist the change to the open air next month. Harden them off now.

CAMELLIAS will now be pushing their new growth rapidly, and will require an abundant supply of water at the roots and over the foliage; if well drained, there is but little fear of giving too much. Continue the supply of liquid guano. Inarching may yet be done if the stocks have not yet begun to grow.

PELARGONIUMS will now be throwing up their flower-buds, and will require an abundance of air to prevent drawing. Water occasionally with guano, and syringe as often as there is the sign of a green fly.

VERBENAS wanted for flowering in the house should be repotted. Sow seeds now for raising new varieties.

CINERARIAS, as soon as done blooming, should be kept in a cool and rather shady part of the house, in order to have them become well hardened before removal to the open air.

JAPAN LILIES, growing rapidly, should be repotted this month. Seeds may be sown now.

FUCHSIAS will need a shift into a larger pot.

DAHLIAS, for early flowering, may be set out the last of the month. Now is the time to divide and propagate where there is not a good variety.

ACHIMENES and **GLOXINIAS** will require another shift if they have come on well; put in the small bulbs or tubers for a succession.

PANSIES, in pots, intended for blooming in the house, should be shifted now for the last time; a six or eight-inch pot is large enough.

ALSTROMERIAS, potted in February, will now require to be shifted into larger pots.

TORENIA ASIATICA should now be started from young plants, and grown so as to make fine large specimens.

CHRYSANTHEMUMS may now be propagated by division of the roots or by cuttings.

AZALEAS, out of bloom, may now be repotted; see Mr. Saunders' article in our last.

TUBEROSES should now be potted, and brought forward in a hot-bed.

OXALISES, done blooming, may be placed away on a shelf under the stage, or in the back shed.

MONTHLY PINKS, and **CARNATIONS**, in pots, done flowering, may be layered now, in order to get strong plants for next year.

FLOWER SEEDS, of all the kinds we enumerated last month, as well as other tender sorts, may now be planted in a hot-bed, and brought forward for early blooming.

GREENHOUSE and STOVE PLANTS, of many kinds, done flowering, may now be pruned in, before they make a new growth.

BEDDING-OUT PLANTS, of all kinds, should be propagated immediately, or they will not get on rapidly enough to make any display this year.

FLOWER GARDEN AND SHRUBBERY.

An abundance of work accumulates this month in this department. Ground should be at once prepared for planting. Walks should all be looked after, and repaired if necessary. Lawns will need rolling and manuring. Grass edging requires to be relaid; hedges to be cropped, &c., &c. All new planting to be done should be looked after in good season.

TULIP and HYACINTH beds will need to be uncovered immediately. As soon as the soil is in good order it should be lightly stirred with a trowel, being careful not to injure the foliage.

HERBACEOUS PLANTS should be uncovered of such kinds as have been protected.

ROSES, in frames, of the half hardy kinds, should be opened and aired every fine day.

TREE PEONIES and similar shrubs, which have been protected, may now have the covering removed.

CARNATIONS, PICOTEES and PINKS, of choice kinds, should be looked after. If wintered in frames, give them fresh air every day by entirely removing the sashes. If in the open ground, remove the covering.

TRANSPLANT all kinds of shrubs, roses, plants, trees, &c., and prune and put in order all vines trained upon trellises. Manure and dig all ground as soon as it is sufficiently dry.

GLADIOLUSES, of the hardy kinds, may be planted out the last of the month.

VEGETABLE DEPARTMENT.

If everything has been properly managed, the gardener will have all his early crops well forwarded, and will find enough to do. If the early hot-beds are exhausted of their heat, apply new linings; if they are not wanted for any purpose requiring great heat, they may be planted out with lettuces, radishes, cabbages, &c. Where cucumbers and melons are wanted, new beds should be made up.

CUCUMBERS will now be showing fruit if they have been well managed; keep up a good heat, earth up the plants, stop all runners, and set the fruit blossoms as soon as they open.

MELONS, of such kinds as the Beechwood, Persian, Bromham Hall, &c., require a good heat to have them in their finest condition. Plant early, and maintain a good heat by linings to the beds.

TOMATO, PEPPER, EGG PLANTS, &c, sown last month, may now be pricked out into new beds where they can grow till the last of May, before it is safe to remove to the open air.

PEAS should be planted immediately; also, beets, carrots, turnips, onions, &c., &c.

MUSHROOM BEDS may now be made up, according to directions to be found in our previous volumes.

THE MAGAZINE OF HORTICULTURE.

MAY, 1852.

ORIGINAL COMMUNICATIONS.

ART. I. *Mountain and Forest Rambles.* By JOHN LEWIS
RUSSELL, A. M.

IN several numbers of the Magazine of Horticulture, &c., I notice your effort to recommend the introduction of our native shrubs into more general cultivation. As every year gardening is partaking of a wider character, so there will be a demand for the materials to sustain it. I had a glance, not long since, of an extensive planting of the varieties of hardy, deciduous, and evergreen trees, on the sides of hills and on slopes contiguous to the residence of a friend; a kind of foresight on his part, which will eventually prove his taste and wisdom. There are a good many trees besides, which claim more regard. What a curious and valuable arboretum, of a single genus, some low, swampy, and almost worthless piece of ground might make, if devoted to planting it out with all kinds and varieties of willows. I would willingly perform quite a journey to be able to visit such a grouping of authentic specimens of these beautiful but strangely overlooked trees, whose forms and distinctions, to be known accurately, must be studied side by side. The rich silkenaments of the flowers of some of the smaller and shrubby species have often arrested my attention, and I have thought how beautiful they might be made to appear by judicious grouping and attentive care.

A few words then, in passing, on the planting of shrubs. I was asked a day or two since "what there was new in the shrub line," but as I was not very accurately read in the novelties of the flower catalogue, I felt at a loss for a ready answer. Recalling, however, what I had seen in the rich woods of the western part of this State, in the swamps and mountains of New Hampshire and Vermont, during the past summer, I thought I could have named several fine plants of rare beauty, which if not *new*, were seldom seen in our lawns or in our planted copses. Taking them in a series as they now present themselves to my mind, we will (an please you) notice them as if on some herborizing expedition, neglecting not the humble companions of their habitats, whether lowly moss, rich fern, or delicate blossom, we may encounter.

Who, on the first spring weather, tempted into the woods, can escape noticing the long, lithe and straggling stems of a semiprostrate shrub, whose brown wooly buds, composed of a few closely packed leaves, terminate each of its branches? Presently those bare, lithe stems will be crowned by an expanded set of large, downy, pleasant green leaves, from whose bosom a large snowy corymb of flowers will arise, vieing the snowball in beauty, and fairer, by far, than it in delicacy. Wait awhile until summer suns shall have brought other and more brilliant blossoms into rivalry, and you, perhaps, have forgotten your first love; then take a stroll into those same woods on some shining and bright day in October, and recall the acquaintance under a new aspect, now bending beneath a gorgeous cluster of red and black berries, intermixed, and conspicuous from afar. If you would like to know the name of this native shrub, fit for any coppice about your dwelling, the farmers will tell you that it is Hobble bush; the botanist, *Viburnum lantanoides*. I have often noticed it in all its changes in the cold moist woods at some distance from the seacoast, and thought what a show it would make in some collection of beautiful flowering shrubs.

There is another viburnum to be found in the beech and sugar-maple woods, whose foliage is so much like that of the *Acer*, that one not familiar with the difference of the blos-

soms might imagine that it was a small maple bush. Its flat heads of snowy blossoms are very delicate and attractive. It is the *Viburnum acerifolium*, (*Maple-leaved Arrow wood*.)

Once on a June day, at Staten Island, I saw a tall shrub growing by the wayside, not unlike a pear in foliage, and covered on the top and sides with small clusters of white blossoms, which I ascertained to be the Black Haw, or Sloe-leaved *Viburnum*, (*V. prunifolium*.)

There are several viburnums, beside, which grow about Boston, in the woods and field sides, all pretty, either in bloom or in berry, and a collection of viburnums would in itself be attractive.

A pretty, neat, trim, compact and dwarfish bush, looking, for all the world, as if actually pruned into its demure contour, may be found as you proceed northward. Early in the spring it begins to push out its leaves, and, at the same time, its flowers, three in a cluster, from a dark brown hairy bud, from whence there succeeds a short branch. These flowers are somewhat like little bells, are of a pale yellowish color, and are very attractive. You essay to break one of the twigs, but you find it no easy task; and so you twist off all the bark and flowers too, in the attempt; and wonder how it could be so tough when it seems so fragile. After the leaves expand they will have an ovalish outline, and some reddish plums (*drupes*) will succeed. You have found the graceful and curt *Dirca palustris*; it is worthy your further acquaintance; for I can assure you that it will look well on your smooth grassy lawn. There is a high rise of land some seven or more miles from Brattleborough, Vermont, which overlooks all the surrounding hills, and from whence you can see *MONADNOCK* in grand fullness, and *ASCUTNEY* in misty significance. This height delights in the name of *Wicopy Hill*. From this Indian name, as I conjectured it to be, I connected a favorite habitat of the *Dirca palustris*; but on visiting the spot, found no vestige that it ever existed there. Nearer the village, in the sheltered and warm nooks near the Whetstone Brook, it may be found abundantly, and doubtless elsewhere, in similar situations, without much trouble of search. A

significant, trivial name is attached in that of leatherwood ; for what more *leathery* and pliantly tough than its smooth bark, fit for sylvan thongs and strings.

It were not surely necessary to say how charming a shrub is the *Lonicera ciliata*, with its honeysuckle looking flowers ; I will, however, venture a word on the merits of the Red berried Elder, (*Sambucus pubens*.) Would you see this gem of native berries, climb some mountain ravine when it is in full glory. Almost any one likes to see our common Canadian Elder bush when in June it overtops our fence rows and the borders of thickets with its large, flat, showy flowers, or when later in the season it bends beneath its black purple fruits. But far more rich are the blossoms of the Red berried Elder, of a fleecy character, and of a convex or pyramidal outline. And those scarlet berries—how they flash on my mind as I recall the first time I saw them, and the subsequent pleasure they have given !

The occurrence of *Cornus florida*, with its nobly honest, open, white but slightly pink tinged blossoms, overhanging some craggy, broken rock, just within the borders of a woodlot, awakens within us the remembrance of the song of the birds, of the budding blue violets, and of the full promise of summer near at hand. He that is not transported at the joyous purity of one of these elegant plants, is only fit to be transported to parts unknown, far away from human sympathies ! A true taste will secure a few of these charming tree-like shrubs to one's pleasure grounds ; and their cultivation is easy and sure. Certain am I that I shall never forget the impressions this shrub made on me when I saw it in company with the American Crab, (*Pyrus coronaria*,) and with the Red bud, (*Cercis canadensis*,) in the woods of Ohio ; and how the voyager for scenery would regret its absence should it not throw its fair snowy blossoms upon the rugged and crested shores of the Hudson River, when vegetation seems to be in rivalry with itself to exhibit its charms !

Do you admire some evergreen shrub, something that will look richly green all through the year, after a long winter's snow as well as in summer's prime ? Then take the Ameri-

can Yew, (*Taxus canadensis*,) and plant it beside the antiquated and prim English species, in some dark shady spot, by way of contrast, if so fancy. To admire it properly, visit some favorite spot where it delights to grow; like the vicinity of the picturesque cascades in Royalston, Massachusetts, or in the cold springy swamps near Brattleborough, Vermont. There it lies before you, half recumbent, looking like some rich plume, occasionally dotted with a most exquisite gem of a berry, of cornelian hue, of waxen consistence, of vasselike form, with just one round brown seed nestling in its hollow depths. Thus have I often seen it, and never without renewed admiration.

Could we imitate natural habitats, how impressive would a thickly planted swamp of *Rhododéndron máximum* become in some amateur's grounds! You almost lose your respect for the shrub when grown in a single specimen and in an open border, after you may have seen it in those gorgeous masses, such as the wide, famous swamp at Medfield (Massachusetts) affords, or as I have seen them, in similar condition, near Troy, New Hampshire. How pleasant, too, would it be to be able to pluck the fragrant chalices of the *Magnolia* flowers from your own coppice of cultivated shrubs, the Rosebay and the glaucous-leaved *Magnolia* of Cape Ann flowering side by side!

The tameness, which must be so severely felt in certain districts, could be in a great degree overcome by judicious attention to artificial plantings. Beside arboriculture, shrub cultivation should be recommended. Cultivate your shrubberies as you would your orchards or your flower beds, and you shall see your reward. Do not imagine that a bush will grow anywhere or anyhow, because you have found it in some wild and neglected place. Nature is a bountiful feeder, and lays up in store, year by year, rich materials for future use. We only need do something in the same way to raise our fine native shrubs into really flowering plants. I do not see why artificial grouping of shrubs should not add much to the beauty of scenery. To acquire a love for these trees of smaller growth, to earn a taste for shrubs, a residence of a few

months in some mountain region would do much. There we should grow insensibly more and more attached to the very rocks, trees and bushes—to the bending branches and outstretched twigs, which beset our path, or greet us in our daily walks. Neither is it necessary to turn into the botanist, to sympathise with the ever curious forms of vegetation springing up around us; a hearty love for the beautiful, and an honest desire to perceive and acknowledge it, wherever found, is all that is requisite. I can think of no better mode for amateur horticulturists to pursue, than to educate themselves to a true natural taste, through study of the New England flora, so profusely furnished in its mountain districts, before they essay to plant and to lay out their grounds.

It was through a pleasant acquaintance formed at Brattleborough, that I was enabled to examine for myself many of the forms of vegetation, both the larger and the minutest, which occur in sections of Vermont, which we visited together. Its immediate vicinity is thus rich in a great variety of fine trees, shrubs and flowers, with which its woods and rocky hills abound. The early spring sun awakens the *Epigæa repens*, and tempts forth old and young in quest of its roseate and fragrant corols. In the colder and mountain woods this little plant does not bloom until quite late in the spring, when its larger developed and pure white flowers are very attractive. One of the earliest violets is the delicate *Viola rostrata*, or Long spurred violet; and among the latest, I found a beautiful crimson purple variety of *Viola cucullata*, which I have no doubt is a permanent sort, and from which I obtained some autumnal flowers and perfect seed. The rich woods afford the Blue Cohosh, (*Lebntice thalictroides*,) and the Purple Trillium, (*Trillium erectum*.) When this latter plant is seen growing in the moist crevices of the rocks in some ravine, it is of rare beauty. *Erythrœnum americanum* springs up in company with *Sanguinaria canadensis* in coincident inflorescence. *Diclytra cucullaria* may be seen on moist and dripping rocks; and that handsome, delicate vine cultivated in gardens, *Climbing Fumitory* or *Smoke Vine*, occurs in mountain paths,—the *Adlûmia cirrhosa*.

In similar places, and lining the banks of some little mountain brook, may be found *Kalmia latifolia* in profusion; and prostrate on the rolled pebbly beaches of the larger streams, the Sand Cherry (*Cerasus pumila*) delights. As almost every hillside gushes forth in cold springs of water, the Wild Ginger (*Asarum canadense*) finds shelter under the decaying leaves of the forest, the exquisite *Orchis spectabilis* pushes up great tufts of leaves and blossoms; and beautiful ferns and green liverworts, and rich *Peltigeras* are scattered around. The curious *Squaw root* (*Conopholis americana*) was found last summer; and the beautiful *Apléctrum hiemale* occurs. In the Connecticut River several species of *Potamogetons* will be found; and on the stones of its bed, clings the remarkable *Podostemum ceratophyllum*. The broad leaves of the Coltsfoot (*Tussilago farfara*) succeed the bright yellow blossoms, which welcome the spring under some sheltered bank, and many the profusely flowering asters, which in latest autumn accompany the departing year. Of other and minuter vegetation, which fell under my cognizance in these *hanging gardens* of nature, I dare not venture mention, lest I trespass on stricter botanical limits; suffice, that would any reader of mine wish to know more in that quarter, let him make excursion to this mountain town, let him seek acquaintance of C. C. Frost, who, among other rarities, can show him where he found the tiny and lovely little *Lycopodium alpinum*, the native representative of that Helvetian co-species, which is cultivated with sedulous care in our greenhouses under the name of *Lycopodium denticulatum*.

Desirous, however, of more thoroughly examining the Cryptogamic flora of the State, and indeed, turning my attention in botanical matters almost exclusively in that direction, I set out with this gentleman (who can make you a good pair of boots or shoes in as trusty a manner as he can give you the name or the locality of a plant he may have studied in moments won from his bench to recruit his body and his mind) to visit some of the Green Mountain range. Taking the Vermont Central Railroad on the 11th August last, we rapidly

passed in succession the high points of mountain land which lay in our route until, towards the close of the afternoon, we were dismissed the cars at Waterbury, from which town to the village of Stow we were transported by stage over the Lamoille County Plank Road, ten miles distant, and six miles from Mansfield Mountain, the intended scene of the next day's adventures. A short excursion about the village allowed us a view of the distant mountain lying in calm repose, the upturned face of some mighty giant, whose fantastic profile was in relief against the evening sky. I noticed an attempt at a nursery, and found some very good looking seedling apples and some pears budded, but just under way, also some young peaches. So northern a climate is generally considered unfavorable to the peach, but I think that were this tree trained low and flat like a gooseberry bush, so that the snow could cover it completely and protect the fruit buds, some sorts might succeed. Under the line of fences where snow would usually drift and lie long in spring, there would also prove, perhaps, favorable situations. We were shown a curious and interesting geological feature in a pot hole, some twelve feet deep and five feet diameter, on the brow of a rocky pasture more than a hundred feet above the village street, indicating the ancient route and current of the stream which is now wending its course far below, through a lower level. The noble mountain fixed our attention, and as twilight was creeping on, the proportions of the face were more striking. There lay the low and retreating brow, then succeeded the nose, somewhat pug and determined; next the lengthened space till the closed lips appeared, and afterward the lofty chin, then the declination into the throat, till further likeness was lost. From our position, some have made out the Pomum Adami, or Adam's apple, which however does not legitimately belong to the face, but is borrowed from the rounded summit of a neighboring hill. We could see only the upper portion of the mountain, too, the intervening range of hills cutting off the base. To take in its entire magnitude, an excursion down Lake Champlain will be found to be best, from whose waters the Camel's Hump and Mansfield

are both perfectly visible. I had often before admired these massive and rocky points of upheaved land from the lovely town of Burlington; how soon it was to be my privilege to tread the heights of the loftiest and to inspect its floral wonders!

Having, after some interruptions, succeeded in making the acquaintance of the excellent host of our inn, JAMES M. DODGE, whom we cordially recommend to all botanists and tourists, we agreed on an early start. Accordingly, under the bright setting moon of the next morning, we rode to the mountain's foot and set out on the ascent by a sharp ridge or spur, which served as some indication of our route. We passed through a patch of Indian wheat, a variety of Buckwheat, (*Fagopyrum esculéntum*,) just then beginning to ripen, and through the tall heavy English grasses of the farm, filled with dew. It was now six A. M., and near five thousand feet were to be risen before we should tread the summit. On entering the woods, the *Impatiens pallida* in luxuriant growth and full flower greeted us. Intent on the observation of other plants we gave little heed to the usual concomitants of a mountain forest. We trod heedlessly and I fear ruthlessly on many a delicate oxalis, and similar indications of the rich moist soil. The tall, stout trunks of various deciduous trees grew closer and closer, and their lofty branches excluded the sun. We had as yet struck no path, and depended on the skill of our guide. 'Twas our's to look, lens in hand, for *lichens*; 'twas his to show us the upward and best way. We were busy; and he was all that we could ask. Armed with a large provender basket he strode in our advance, with that careless, easy gait, so peculiar to those born in mountain districts, anon resting on some prostrate log or jutting rock to await our slower or tardier approach. As we rose by degrees to higher points the character of the plants indicated our locale. Here was *Hypnum crista castrénse* spread out in feathery beauty and laden with capsules. There was *Hypnum umbrátum* clothing some shady rock. On reaching the spruce, the tops of the surrounding mountains could be discerned, and we could realize

the forest extent and solitude. Here the soil changed, and coarse gravel and decaying granitic masses protruded. Now came the *BIATORAS* and *LECIDEAS* on the dead bark of the standing trees. Now was every twig garlanded with *Parmelia physodes*, *var. enteromorpha*, and with *Evèrnia furfuracea*, *var. Cladonia*. Here were three or four species growing together on a small stick, and with *Parmelia physodes*, occurred *Cetrària Oakesiàna*, *pinàstri* and *sepincòla*. Now occurred the tall *Solidàgo thyrsoidea* gleaming like a wand of gold. The vigor of this mixed growth was great, and the adaptation of the soils to each kind was noticeable. Our hours passed away fast and onward, and muscular exertion produced profuse perspiration and exhaustion. Turning aside for a few steps our guide brought us to little moist spots filled with sphagnum. Removing the spongy moss, a scanty supply of tepid water was obtained. Never was liquid more grateful or palatable, and a few drops relieved a thirst which was producing unpleasant consequences. *Càrex irigua* grew in these spots, a charming sedge, with pendulous green and brown spikelets. Near by was *Càrex pauciflora*, a singular species, and the strange but delicate *Lístera cordata*.

We were now ascending the nose, and emerging from the thicker growth could get views of the surrounding country. Intent on standing on higher ground we pressed forward. At eleven A. M. we had surmounted the nose. The scenery was now to be enjoyed. Yet it was beautiful rather than grand. Stretched out into a narrow ribbon, lay Lake Champlain with its numerous islands; and beyond, the mist hung over the summits of the mountains of New York. Intervening were green and bosky tracts; below, the spurs and ridges of the monarch hill on which we stood, furrowed here and there by mad torrents, whose rushing waters had swept into desolation all that impeded their course. We could distinguish some three or four towns, whose limits bounded on the mountain. The clouds came rolling over us, covering us in mist. These sweeping by, the sun would suddenly strike some distant summit or light up some bright green space afar off. The beauty of scenery and the solitude

were impressive. The eye satisfied, the lichenose vegetation claimed our next attention; and after an hour's treat in that way, we, dinner being disposed of, proceeded across the mountain ridge to the CHIN. The rock vegetation of course was the same, but we here found a wide barren moor covered with interesting plants. *Carex rigida* and *Juncus tufidus* abounded; also the *Agróstis canina*, *variety alpina*, composed, in places, the sod. *Arenaria greenlandica* sprung out of the crevices and was full of flowers. *Parmelia ventosa* was in great beauty. *Lecidea geographica* was conspicuous. *PARME'LIA centrifuga*, contrasted with *PARME'LIA stygia* and *P. saxatilis*, was parasitic on *CETRA'RIA glauca*. A narrow variety of *CETRA. islandica*, but unfertile, constantly occurred. The rocks exposed to the sun were clothed with *Umbilicaria*, of which I gathered *U. U. hyperborea*, *pustulata*, *erosa*, *proboscidea*. Large patches of *BIATO'RA icmadophila* spread over the decaying wood and moss, accompanied by *BIAT. decolorans*. On the summit of the chin I found the beautiful *CETRA'RIA cucullata*, and contiguous, *CLADO'NIA gracilis*, variety *elongata*, with *vermicularis* and *taurica*. Upon the heath or moor, a soil seemingly nothing but decayed sphagnum, I found *Salix repens*, *Vaccinium vitis idæa*, very diminutive in size, the "Small Cranberry," (*V. oxycoccus*), *Empetrum nigrum*, *Vaccinium uliginosum*, &c.

Our specimens carefully packed in the space made in our provender basket by the incursion of appetite, and stowed away in sundry pockets and wherever they could be best accommodated, we descended, in single file, the precipitous back of the CHIN, culling whatever could be safely picked on the way. Arrived at its base, it seemed a perilous descent, but *onward* was now the word, so bending our steps towards a little pond in the distance, we at length reached its margin. Its waters were clear but shallow, and on its bottom grew the *LYCTES lacustris*. The tall spiked *PLATANTHE'RA dilatata*, with pure white flowers, also grew near by. A complete carpet of a short, close sphagnum, which I have provisionally considered *SPH. molluscum*, was full of capsules. This fairy lakelet, thus elevated into the subregion of clouds, was the

source of a mountain rivulet, whose bed we were to use as a guide of descent. It was a tedious afternoon's work. More exertion was requisite, and many steep places were to be cautiously passed. Over some cool and sparkling cascade we found now *Luzula parviflora* waving its spikelets of drooping flowers, or else mingling them with the silken thread-like peduncles of *Aira purpurea*. Again we could but admire the patience and sagacity of our guide. By many an expedient did he save us trouble. Sometimes he would lead us along slopes where "our feet were in slippery places," and we were sustained only by strongly grasping the overhanging bushes. Anon, nothing remained, but to sit down on the wet rocks and slide forward as best we might. Variety, however, is said to be the spice of life. So we might have found it, if need were. Ascending at the extreme brow, we went dry shod and thirsty; descending at the other extreme end of the mountain, we were wet through and some water to spare. Presently the occurrence of a rare FERN, my friend sought, brought satisfaction. It proved, strange to say, the only specimen of the sort on our downward course. He gathered its fronds carefully, and we proceeded. At 5½ P. M. we had effected the descent.

We now stood at the base again, and "in the woods about the 'Notch' at the north base of Mansfield Mountain." It was to arrive at this locality that we took the general course we pursued after leaving the chin. It was the specified locality in Oakes' Catalogue of the Plants of Vermont, where grew *POLYSTICHUM ACULEATUM*, the choice fern alluded to just now. We were fortunate enough to find it plentifully just where we had come. All hands were busy again, and with our guide's assistance, we bestowed a goodly number of broad and richly fruited fronds between sheets of large blotting paper, carefully borne over mountain and adown crag for this specific purpose. Securely tied and properly attended to, we were, in half an hour's time, ready for a new tramp, which was now to assume a homeward aspect. But the entire length of the base was to be traversed, and this over a varied surface, across the stream in its changing course,

and by ways known only to our guide. For nearly two hours we held on the even tenor of our way, diverging only to taste the cold, pure water, at the base of the spur of some mighty hill, which rushed out as from an immense bore and instantly assumed the port and guise of a mountain torrent. Such a fountain of such water, what a treasure would it prove to any city corporation, who could convert it into an aqueduct of health and salubrity!

The only wild animal we encountered was a splendid fellow of a fox, who seemed at first disposed to make acquaintance, but on second sober thought relinquished the plan. Shortly after, we noticed the marks of settlement, in sundry fishing rods, extemporaneously made of some saplings, thrown aside near the stream, as if they had done their work, and might be consigned to neglect. The trees grew thinner, too, and we could see old Mansfield on our right hand, looming up against the evening sky. At length "we were out of the woods and might whistle." It was not a great while that we tarried; a few tempting raspberries and a social word with an elderly dame, who was picking her first green peas on the evening of the 12th of August, were matters of not much detention. Our steed was put to, ourselves ensconced again in the wagon, and we were borne in the bright starlight towards good Mr. Dodge's public house, laden with the spoils of a long ramble on the Green Mountains of Vermont. That was a proud day to two lovers of nature and two such seekers of minute vegetation, which enabled us, thanks to a propitious sky and to a willing and accommodating guide, to traverse the summit, ravine and gorge of Mansfield, and to collect the species of fern which PURSH discovered, near that very spot it may be, at least in the same range, and to gather lichenes, carices, &c., which TUCKERMAN and other worthies had rendered classic through their acquaintance.

Salem, March, 1852.

Little that we could say would add anything to the interest of Mr. Russell's communication; yet we cannot omit the

opportunity to call the attention of every lover of beautiful trees and shrubs to that portion of it in which he describes some of our native species, and urges their introduction into our gardens. Never was a question more absurdly asked than that put to Mr. Russell, "what is there new in the shrub line." Alas! how long will our rural planters ransack every tree and plant catalogue to find something new, when quite within their reach lie treasures which no other clime can surpass, and which are more rare, even in our most extensive plantations, than the denizens of the Himalayas, or the mountains of Japan. The best school, as Mr. Russell states, in which a rural planter can educate himself for the fulfilment of his intended task is our New England Flora, studied in all its aspects, and at various seasons, with a view to know what constitutes the beautiful in nature. We trust his remarks may awaken a sense of the neglect into which our own trees and shrubs have been allowed to fall, in the desire to possess the acquisitions from foreign climes, sometimes of remarkable interest, but oftener less attractive than our native species.—ED.

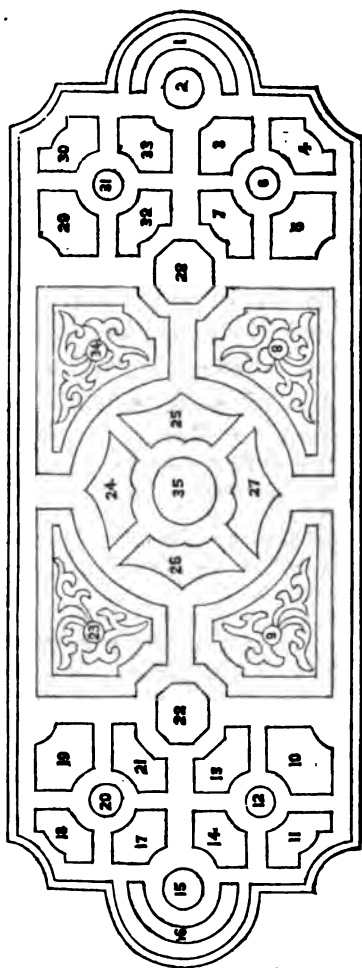
ART. II. *Design for a Flower Garden, with a selection of Plants adapted to the same; with remarks on the Design.*
By the EDITOR.

MANY designs have appeared in works upon gardening, and in journals devoted to the subject, but yet only a limited number have displayed a high degree of taste in their arrangement. It is certainly a simple labor to plan some kind of a geometric arrangement, which shall display flowers to a fair advantage, and indeed answer every ordinary purpose; but to please those who fully appreciate the really beautiful in the art of design, is a difficult task to accomplish; and it is for this reason that most of the attempts of this kind have been so unsatisfactory, that no other than simple squares, diamonds, ovals, circles, or arabesque figures, have been adopted to the

exclusion of intricate forms, arranged without any regard to the principles of symmetry, unity or beauty.

Dropmore, the residence of Lady Grenville, which we gave an account of in our *European Tour*, (Vol. XII, p. 44,) though displaying no remarkable feature in its general arrangement, is celebrated for its flower garden, which was pronounced by the late Mr. Loudon as a model of its kind, both in the symmetrical arrangement of its parts, and its effect as a whole. We certainly must admit that we have never seen but few, if any, plans, either upon paper or carried into execution, which have excelled that at Dropmore.

Among those which, if any, may be ranked with Dropmore, is that of Charles Mills, Esq., of Hellington, near Uxbridge, England, of which an engraving recently appeared in the *Gardeners' Journal*, and a copy of which we now annex, (*fig. 17.*) It is more geometric and artificial in its style, and should not, on this account, be judged by that at Dropmore; still it has many beauties, and we can imagine its effect when grouped with the kinds of plants named in the annexed list. It indicates, as Mr. Marnock states, "artistic skill and arrangement of a



[Scale thirty-two feet to the inch.]
Fig. 17. Design for a Flower Garden.

superior order.”* We have made a slight alteration, or rather we have omitted a sort of semicircle on one side, which in the original plan made this parterre correspond with the terrace of the adjoining mansion.

The plan is formed on gravel, with box edging dividing the beds from the walks, and the site on which the parterre is formed, sunk a couple of feet or so below the gravel walk in front of the house. By this arrangement the flowers are better seen from the windows. Trained against the front wall of the house is a plant of *Glycine sinensis*, with a stem nine inches in diameter. The length of the garden is 160 feet, and the width 72 feet. The beds are all numbered, and the following list was furnished by Mr. Constantine, the gardener, which corresponds with the beds.

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| 1. <i>Verbena</i> , Imperatrice Josephine, (blue.) | 18. <i>Heliotrope</i> . |
| 2. <i>Campanula carpatica</i> alba. | 19. Tom Thumb geranium. |
| 3. Unique geranium. | 20. <i>Verbena</i> , Madame Buenzod, (light.) |
| 4. Fancy geraniums. | 21. <i>Calceolaria</i> . |
| 5. Tom Thumb geranium. | 22. <i>Ageratum</i> . |
| 6. <i>Verbena</i> Princess Alice, (light.) | 23. Same as No. 8. |
| 7. <i>Calceolaria</i> . | 24. Geranium, Miss Dolby, (pink.) |
| 8. <i>Campanula carpatica</i> , Standard rose in the centre, trained down an iron support. | 25. Tom Thumb geranium. |
| 9. The same. | 26. Same as No. 25. |
| 10. Tom Thumb geranium. | 27. Geranium, Miss Dolby, (pink.) |
| 11. Fancy geraniums. | 28. <i>Ageratum</i> . |
| 12. <i>Verbena</i> , Princess Alice, (light.) | 29. Tom Thumb geranium. |
| 13. <i>Calceolaria</i> . | 30. <i>Heliotrope</i> . |
| 14. Unique geranium. | 31. <i>Verbena</i> , Madame Buenzod, (light.) |
| 15. <i>Campanula carpatica</i> alba. | 32. <i>Calceolaria</i> . |
| 16. <i>Verbena</i> , Vampa, (blue.) | 33. Geranium <i>Diadematum rubescens</i> . |
| 17. Geranium <i>Diadematum rubescens</i> . | 34. Same as No. 8. |
| | 35. Basin, with fountain in centre. |

As this list is intended for a first rate place in England, where there are all the means and wealth to keep up the richest display by the aid of good gardeners, frames, pits, forcing houses, &c., we have made out the following list which can be substituted for it, and be adopted in any place

* The design and arrangement of the garden are due to the cultivated and refined taste of Lady Sophia Towers, of Huntmore Lodge.

where there is a small greenhouse, or, if none, where the proprietor is willing to expend a few dollars for verbenas, geraniums and heliotropes; all the other plants being annuals or perennials of the easiest cultivation.

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|---|---|
| 1. Verbena, Heroine, (blue.) | 20. Verbena, Sunset, (rose.) |
| 2. Verbena, America, (white.) | 21. Portulaca, (golden.) |
| 3. Pansies, of the fine showy sorts. | 22. Portulaca, (scarlet.) |
| 4. Portulaca, (white.) | 23. Same as No. 8. |
| 5. Tom Thumb geranium. | 24. Geranium, Lucia Rosea, (pink.) |
| 6. Verbena, Republic, (striped.) | 25. Tom Thumb geranium. |
| 7. Portulaca, (golden.) | 26. Tom Thumb geranium. |
| 8. Campanula carpatica, with rose,
as in the above list. | 27. Geranium, Lucia Rosea, (pink.) |
| 9. The same. | 28. Portulaca, (scarlet.) |
| 10. Tom Thumb geranium. | 29. Tom Thumb geranium. |
| 11. Portulaca, (white.) | 30. Heliotrope. |
| 12. Verbena, Republic. | 31. Verbena, Sunset. |
| 13. Portulaca, (golden.) | 32. Portulaca, (golden.) |
| 14. Pansies, of the fine showy sorts. | 33. Ageratum. |
| 15. Verbena, America. | 34. Same as No. 8. |
| 16. Verbena Morphé. | 35. Vase, or Statue; if a vase, to be
filled with Verbenas, Petunias,
&c.,; if a statue, to be sur-
rounded with a circle of Oxalis
floribunda. |
| 17. Ageratum. | |
| 18. Heliotrope. | |
| 19. Tom Thumb geranium. | |

This arrangement may be further altered by those who do not wish to purchase any plants, viz., by substituting candytuft, sweet alyssum, petunias, dwarf convolvulus, and other annuals, in the place of the geraniums, heliotropes and verbenas.

In whatever way they may be filled, provided the proper arrangement of colors is kept in view, the parterre will be a splendid object throughout the summer.

ART. III. *Pomological Gossip.*

LARGE COLLECTION OF STRAWBERRIES.—Mr. W. R. Prince, of Flushing, cultivates the large number of two hundred and fifty-two varieties of strawberries, among them Peles Mer-vielle, and other foreign kinds. Many of these kinds are

undoubtedly of little value, while others of the new ones, may prove great acquisitions. We are glad to see such exertions made, not only to introduce new kinds, but to cultivate them successfully, so that their merits may be fully tested.

MOWANESING PIKE STRAWBERRY—This is a new seedling, raised by Mr. Schmitz, of Philadelphia. It was awarded the prize by the Pennsylvania Horticultural Society, in 1849, and is said, by a cultivator in New Jersey, to be "superior in every feature (except size) to Hovey's Seedling," which was its parent. It is an abundant bearer, of robust habit and growth.

AMERICAN ORANGES.—In our volume for 1851, [XVII, p. 129,] in a communication on the culture of the orange, a correspondent alluded to the quality of the fruit when raised in the Southern States, and remarked that "though some fruit is produced, it is only for looking at it, and is scarcely more fit to eat than a lemon; and though I have seen growers enthusiastic in favor of the fruit produced by their own trees, the fruit is as unlike the oranges of St. Michaels', as the Fox grape is unlike the Muscat."

This sweeping charge induced our friend and correspondent, Capt. Chisholm, of Beaufort, S. C., to send us a box of oranges produced in his garden, with the accompanying letter, which, though not intended for publication, we claim his indulgence for its insertion:—

"Dear Sir,—I noticed the article in your Magazine, some year or two ago, of one of your correspondents, who asserted, among other things, that no oranges fit to be eaten could be raised in the open ground in any part of the United States. The best reply I think that I can make to this assertion is to send you a few oranges raised by me here, in order that you form your own opinion understandingly, and if you think proper, say what that opinion is. If you think that your correspondent deserves it at your hands, you might invite him to taste a few; but understand, that you do it, and not I, for I would be afraid of curdling all the milk of human kindness left in him by sending such sour fruit.

I have, as yet, only twelve or thirteen trees bearing, but

I have two hundred or three hundred set out; and unless the uncommonly severe cold weather, which we have just had, has injured the trees, I will have near one hundred trees in bearing next summer. My object is to raise them for sale, but I am well aware, from sad experience, that the crop is a very uncertain one, although, strange to say, the cold that kills my trees here, will kill those in Florida at the same time. I intended to have sent you two or three fruit from each tree, but during an absence all had been gathered and mixed together. There is considerable difference between the fruits of the different trees, yet not enough to make it worth the while to keep them separate. The past summer was quite favorable to peaches; the extreme drought and the August gale destroyed all pears and the late peaches. The cultivation of fruit is steadily increasing, and we will soon get experience enough to give us some assistance in our further progress. I cannot produce apples, cherries nor plums, but very fine peaches, pomegranates and pears; but the fire-blight is very destructive to my pear trees, and the curculio is very fond of my peaches. Nowhere can we have everything desirable."

The box of oranges was sent from Beaufort the 20th December, but did not reach us till the middle of March. It contained about two dozen, put in loosely, without paper or packing of any kind, and they came to hand in perfect order, with the exception of two. Larger, finer, more beautiful or delicious oranges we have never eaten; nearly or quite equalling the St. Michaels; and we can now affirm, from the inspection of the fruit, that the orange can be produced in many portions of the Southern States in the finest condition. Indeed, it would not be surprising if another half century should witness the growth of the orange in sufficient quantities for home consumption and exportation.

Capt. Chisholm has our thanks, not only for the fine specimens he sent us, but for his correction of an assertion made without knowledge and due consideration.

NEW SEEDLING PLUMS.—A new seedling plum has been raised by Mr. Lunn, of Montreal, C. W., which he calls the

CANADENSIS. It is nearly as large as the Jefferson, and he thinks as high flavored; color, similar; but it has the advantage of ripening about a fortnight earlier. It first fruited in 1849. Mr. Lunn thinks it an acquisition. He has also another seedling very late, larger and later than the White Egg, and pretty well flavored. He has also several seedling trees, which, if the season should be favorable, will bear the coming season. The climate of Canada appears favorable to the plum, and it will be remembered that Mr. Corse produced several excellent varieties, some of which have long been known in our collections.

ART. IV. *Notes on Greenhouse Plants, Soil, Potting, Watering, &c., &c.* By HORTUS.

POTTING.—Successful plant culture depends much upon systematic potting. The first step in the operation of shifting a plant should be the preparation of the pot for its reception; the requisites being simply that it be clean and properly drained. With regard to the first, all pots should be washed (except new ones) before they are stored past, that they may be always ready when wanted. As to drainage, there is some diversity of opinion upon the amount of materials necessary for this purpose. Some cultivators contend that it is worse than useless to place two or three inches of drainage in the bottom of pots, where the plants are under the influence of a scorching sun and arid atmosphere, as it allows the water to pass off too freely, thereby causing additional labor in keeping up the requisite amount of moisture in the soil. At first sight this appears somewhat plausible; experience, however, will go far to prove that well drained pots and porous soil will retain moisture longer than where these conditions are reversed, for the simple reason that there is more air in the soil. It is a well ascertained fact that soils of a dry nature will retain more moisture and support a more

luxuriant vegetation after they are undermined with drains than they did before, the drains allowing an admission of air, which holds the moisture in suspension to the benefit of the plants. Drains do not in reality dry the soil, they only carry away superfluous water that is not retained by absorption; and if this surplus is not carried away, stagnation takes place, noxious matters are generated, and disease and death are the inevitable results. We confess to an entertainment at one time of the belief that less drainage would be required for plants in pots during summer than would be necessary for their well being throughout the winter months. A fair trial soon gave convincing proof of its impropriety. With insufficient drainage, the soil in drying shrinks and leaves the sides of the pots, and when water is applied it runs down between the ball of earth and the pot, without penetrating to the centre. On the contrary, when water is applied on the surface of a well drained soil, it immediately percolates freely throughout every part; and when it has absorbed as much as it can retain, the rest passes away by the drainage. Both science and practice point undoubtingly to the fact that good drainage is the foundation for good cultivation.

The material most generally used for draining plants in pots is pieces of the pots broke up in suitable sizes. Charcoal, bones, bricks, &c., may be used with equal advantage, and by some are preferred. In the first place, lay one large piece over the bottom hole, close enough to prevent worms and insects penetrating into the soil and disarranging the drainage, over this put a handful or two of smaller material, covering the whole with a small quantity of moss, to keep the drainage clear of mould, and the pot is prepared.

The next point is the preparation of the plants. Those intended for removal should be allowed to get rather dry beforehand. A plant cannot be turned out of the pot and handled, without injury, when soaking with wet. The manner of treating the roots depends upon the nature of the subjects. Permanent plants, as camellias, epacris, azaleas, and most of those that are hardwooded and shrubby, if in perfect health, should not have the roots much disturbed,

unless they are thickly matted and interwoven; in this case they should be gently combed out, and the old drainage removed, to admit of spreading out the roots in the fresh soil. The collar of the plant, or that point from whence the roots and stem proceed in opposite directions, should be retained on a level with the soil. Although some soft stemmed plants, as balsams, achimenes, &c., will throw out roots from the stem when covered, it is questionable whether they are of any advantage, and they certainly grow faster when the roots are kept near the surface. Deciduous plants and those that are renewed annually by pruning the old wood close down, as roses, fuchsias, geraniums, clerodendrons, and others, require repotting shortly after new shoots are formed. The old ball of earth should then be completely broken up, and the strongest roots pruned close back, to admit of fresh soil without enlarging the size of the pot. By this practice we are enabled to give the plant a fresh soil yearly, without having recourse to use pots disproportionally large, as compared with the size of the plant.

A young plant, to be maintained in a healthy growing state, should be shifted before the roots become so numerous as to spread round the sides of the pot, and carefully removed, that it experience no check from the operation. It may be well to remark here that flowers are produced most profusely when the pots are full of roots; consequently it is not desirable to add fresh soil to plants when forming flower buds, as it would induce an extended growth, and reduce the quantity and quality of flowers. There are two distinct processes that seasonally follow each other in a healthy plant, viz.,—the growth of the plant itself as an individual of its race, and the elaboration of the flower and parts of fructification which are to perpetuate its kind. Knowing this, and attending to the different circumstances which stimulate these two kinds of vegetable action, we are enabled so to direct the plant as to make it run to individual growth, or more to flower, according as we desire the one or the other. This may be demonstrated by taking a healthy plant of geranium and pot it in early spring; in a few weeks the roots will

appear through the fresh soil; at this stage place it in a larger pot, where it will have additional stimulus for increase; pursue this treatment until midsummer, and the result would be a large luxuriant plant, without, perhaps, showing a single flower. On the other hand, if the plant is not shifted after the first potting, the soil will quickly be overrun with roots, luxuriant growth will be checked, and flower buds profusely formed. Thus it follows, if we wish to keep a plant growing, we must repress the flowering principle; and proceed in an opposite direction to produce flowers and fruit. The same principle holds good in all cultivated plants, at certain stages of their growth. And if the orchardist had the roots of his fruit trees as completely under control as the florist has those of his plants in pots, the yearly production of a crop would be reduced to a mere mechanical operation.

From the above remarks it will be seen that the size of pot and amount of soil proper for each shift depends upon the nature of the plant and the wish of the cultivator. The practice of constantly shifting as soon as the roots touch the pot, and picking off all incipient flower buds as soon as they appear, will ensure a vigorous plant. Hardwooded plants, however, should never be changed late in the season, as it requires great care to keep them during winter when surrounded with a layer of soil unoccupied with roots. Neither is it necessary to follow all the various gradations of sizes in pots. For example, a small fuchsia in a 3-inch pot may be shifted at once into an 8-inch size. This will contain soil sufficient to grow a useful sized plant. The plant will speedily fill the pots with roots; when they are cramped for room, growth will be checked and a flowering disposition increased.

Soil for potting should be used in a dryish state, and well firmed in the pots. This is an important point; if thrown in loosely, the water passes through it without properly moistening the old ball of earth. There is no danger of making it too firm if all the conditions heretofore recommended are attended to.

March, 1852.

(To be continued.)

ART. V. *Floricultural and Botanical Notices of New and Beautiful Plants, figured in Foreign Periodicals; with descriptions of those introduced to, or originated in, American Collections.*

FANCY PANSIES.—The French cultivators have originated a new class of pansies, called the *Fancies*, which hold the same relation to the old kinds as the fancy dahlias hold to the self-colored ones. Some of these have been introduced into England, and two of them are figured in the *Flor. Cabinet*. They are handsomely striped or lined with the various colors peculiar to this flower, and present a singularly showy appearance.

No doubt the catalogues will soon be increased by the addition of numerous seedlings of the same character; and as they are very attractive, they will undoubtedly become established favorites.

CENTRANTHUS MACROSIPHON.—This is a new and beautiful hardy annual, of a dwarfish habit, bearing very large clusters or panicles of deep rose-colored flowers, resembling, in general habit, the red valerian, to which it is allied. It blooms abundantly all summer; and, if cultivated in pots, displays its pretty corymbs of flowers, in the greenhouse, during the winter. It is a fine addition to our list of hardy annuals.

NEW BELGIAN DAISIES.—It is quite surprising to see to what an extent the Belgian cultivators have carried the cultivation of this humble but beautiful flower. No less than 100 varieties are offered for sale; many of them very distinct, and of all shades of color, from white to deep crimson or scarlet. Some are mottled, and spotted; others red or blush, with crimson centre, and vice versa; some with broad, and some with quilled petals; some globular, others flat. They have reached that perfection that they almost vie with the ranunculus in beauty. All these are as hardy as the common daisy, and are destined to become great favorites. It is indeed singular that a flower, endeared by so many associations, should have fallen into such neglect as only to become again sought

after by the attractions of new kinds. Milton's beautiful lines should have embalmed it in the memory of every lover of plants :—

“ By dimpled brook and fountain brim,
The wood nymphs, decked with daisies trim,
Their merry wakes and pastimes keep.”

HELIOTROPIUM IMMORTALITE DE LOUISE MARIE.—A new variety (with a long name,) raised at Liege, and named in honor of the late Belgian queen. It blooms more profusely than any other heliotrope. The leaves are small, roundish, and the plant somewhat of a drooping habit, similar to those the Romans placed on the graves of the dead. The cymous heads of flowers are large, and each blossom green at the centre, *emblematical of hope*, surrounded by a crown of gold, *emblem of holiness*, and five rays of the border present the virginal whiteness of the celestial stars, with this peculiarity, that here the flowers, it is stated, have the peculiar fragrance of the violet and wall flower, during the period of their progressive changes.

DEUTZIA GRACILIS.—We copy in another page an interesting account of the great exhibition at Ghent. It will be seen that a plant of this new *Deutzia* was one of the most beautiful in the exhibition, and attracted particular attention from the manner in which it was cultivated.

ACHIMENES PICTA.—This beautiful species is grown to great perfection at Kew. The plants are placed in pans or boxes, about eight inches deep, and eighteen across, in loam, rotten leaf mould, and a liberal sprinkling of small bits of charcoal. The stems grow three feet high.

169. **UGE'NIA U'GNI Hook. MYRTILLA. (*Myrtaceæ*.) Chiloe.**

A half hardy shrub ; growing three feet high ; with pale rosy flowers ; appearing in spring ; increased by cuttings ; cultivated in loam, leaf mould, and sand. *Bot. Mag.*, 1852, pl. 4626.

A very pretty heath-like looking plant in its flowers, but with the foliage of the myrtle ; the petals are incurved, and form a kind of globe. The leaves are opposite, small, and the flowers axillary all the way up the terminal shoots. In England it has proved quite hardy ; but probably with us

it will have to be cultivated in the greenhouse, or at least have the protection of the frame in winter. (*Bot. Mag.*, Jan.)

170. *PENTSTEMON BACCHARIFOLIUS* Hook. BACCHARIS-LEAVED
PENTSTEMON. (*Schropulariaceæ*.) Texas.

A halfhardy perennial; growing two feet high; with scarlet flowers; appearing in summer; increased by division of the roots; cultivated in light rich soil. *Bot. Mag.*, 1852, pl. 4627.

This is one of our native species, of great brilliancy, having large rich scarlet flowers. It was raised from Texian seed, and is undoubtedly the most brilliant of this numerous tribe of plants. It will require the protection of a frame. (*Bot. Mag.*, Jan.)

171. *GRINDELIA GRANDIFLORA* Hook. LARGE FLOWERED
GRINDELIA. (*Compositæ*.) Texas.

An annual or biennial; growing three feet high; with orange colored flowers; appearing all summer; increased by seeds; cultivated in any good soil. *Bot. Mag.*, 1852, pl. 4628.

A new and pretty annual or biennial, from Texas, raised from seeds received from Dr. Wright. The flowers have somewhat the appearance of the *Rudbeckia*, with one row of long narrow petals, surrounding the disc, of the deepest orange yellow. The leaves are alternate, sessile, cordate at the base, tapering to the point. It grows to the great height of three to five feet, and flowers till killed by frost. It may be raised from cuttings. (*Bot. Mag.*, Jan.)

172. *IMPATIENS FASCICULATA* Lam. FASCICLE-FLOWERED
BALSAM. (*Balsaminæ*.) Ceylon.

An annual plant; growing two feet high; with bluish flowers; appearing all summer; increased by seeds; grown in any good soil. *Bot. Mag.*, 1852, pl. 4631.

Another of the balsam tribe, of more botanical interest than real beauty; it is of a very succulent habit, and has axillary flowers of a pale bluish color. (*Bot. Mag.*, Feb.)

173. *ECHINOCACTUS LONGIHAMATUS* Salm Dyck. LONG
HOOKED ECHINOCACTUS. (*Cactææ*.) Mexico.

A greenhouse plant; growing a foot high; with yellow flowers; appearing in summer; increased by offsets; cultivated in light rich soil. *Bot. Mag.*, 1852, pl. 4632.

"A remarkably fine and handsome" *Echinocactus*, with large pale yellow flowers, conspicuous from their color in bud and in bloom. It forms a large globular head, deeply fur-

rowed with about thirteen prominent, moderately acute ridges, armed with spires, the central one of which is remarkably long, four inches in length, flattened, deflexed, and curved into a hook at the extremity. The flowers are between three and four inches long, and the same in diameter, and are tinged with red at the tip. It requires the same culture as the other species. It is a valuable and beautiful addition to this showy family. (*Bot. Mag.*, Feb.)

SELECTION OF ANNUALS ADAPTED FOR BEDDING, &c.—The following list of hardy summer and autumn flowering annuals is offered for the convenience of those whose time and limited means prevent their attention to the general class of half-hardy and tender plants for effect, *en masse*, in flower gardens. The descriptions are intended to convey an idea of their average height, color, and habit. A simple mode of managing these seeds is either to sow in drills, or otherwise broadcast over the entire bed, or border, and cover the seeds slightly with finely-sifted old tan, or friable loamy soil:—

Glaucanthus arabicus.—A neat compact plant, from 9 inches to 12 inches high, of a divaricately-branching habit, with dark green, narrow lobed leaves, richly contrasted with bright golden-yellow, close-petalled, Chrysanthemum-like flowers, about $1\frac{1}{4}$ inch wide.

Einothera tenella tenuifolia.—One of the neatest species of a favorite tribe. It grows from 9 to 12 inches high, with small narrow leaves, and numerous large conspicuous purple salver-shaped flowers, varying in semi-nal varieties to rosy purple.

Cape Marygold.—A dwarf compact annual, from 9 to 12 inches high, bearing a profusion of snow-white single Chrysanthemum-like close-lobed blossoms $1\frac{1}{4}$ to 2 inches in diameter.

Nemophila insignis grandiflora.—A very beautiful trailing variety with comparatively light foliage, and studded over with thousands of bright azure-blue salver-shaped flowers three-quarters of an inch broad.

New Golden Chrysanthemum.—An erect compact branching annual, from 12 to 16 inches high, with deeply-divided dark green leaves, and numerous clear golden-yellow Marygold-like flowers, each $1\frac{1}{4}$ to 2 inches wide, beautifully contrasted in color by a rich olive-brown circle towards the centre.

Chrysanthemum tricolor.—A neat, branching, fleshy-stemmed plant, from 12 to 16 inches high, with narrowly-divided leaves, and a profusion of large, beautiful, clear white blossoms (2 inches wide), ornamented with a yellow band towards the base, and picturesquely diversified by a rich olive-brown centre.

Clarkia elegans alba.—An erect and compact branching annual, from 12 to 16 inches high, with comparatively small foliage, and dense masses of elegantly lobed snow-white flowers, $1\frac{1}{2}$ inch wide.

Kaulfussia amelloides.—A dwarf species of neat habit, growing from 6 to 9 inches high, with narrow, strap-shaped leaves, and numerous bright, blue-petalled, daisy-like flowers.

Lasthenia californica.—A compact plant, rising about twelve inches high, with narrow, bright green leaves, and a profusion of conspicuous golden-yellow, chrysanthemum-like flowers, three quarters of an inch wide.

Gilia nivalis.—A neat dwarf, slender annual, of branching habits, attaining from 12 to 16 inches high; with light foliage, and numerous branching clusters of clear, creamy-white blossoms.

Silene pendula.—An erect low-growing species, with a profusion of rosy-red or pink lobed, salver-shaped flowers.

Erysimum Peroffskianum.—A neat erect plant, reaching from 12 to 16 inches high, with small, wallflower-like leaves, and numerous terminal open racemes of brilliant orange-colored blossoms.

Collinsia heterophylla.—An elegant dwarf, compact species, of neat habit, with massive clustered racemes of white and purple flowers.

Eucharidium grandiflorum.—A very neat, compact, branching plant, 12 inches high, with small ovate leaves, and numerous rose-colored, Clarkia-like blossoms, 1 inch in diameter.

Calyctroa platyglossa.—A slender-stemmed annual, 12 inches high, with neat linear leaves, and conspicuously bright yellow, close-petalled, Chrysanthemum-like flowers, $1\frac{1}{2}$ inch wide.

Nolana atriplicifolia.—A neat dwarf trailing plant, with fleshy, bluntly-ovate, dark green leaves, and comparatively large azure-blue Convolvulus-like flowers, $1\frac{1}{2}$ inch wide.

Sphenogyne speciosa.—An elegant habited plant, of dwarf and compact growth, with narrowly divided deep green foliage, and a profusion of conspicuously clear, buff-yellow single Marygold-like flowers, beautifully contrasted with a radiate circle of reddish-brown towards the centre.

Eudoca viscida.—A compact growing annual, of branching habit, rising from 12 to 16 inches high, with notched heart-shaped leaves, and numerous close-lobed salver-shaped blossoms, of a rich ultra-marine blue tint.

Eschscholtzia crocea.—A highly ornamental annual (or biennial) plant, from 12 to 16 inches high, with narrow lobed glaucous leaves, and a profusion of large and brilliant orange-yellow Poppy-like flowers, $3\frac{1}{2}$ inches in diameter.

Convolvulus minor atropurpureus.—A decumbent spreading plant, attaining from 9 to 12 inches high, and ornamented with a profusion of large and conspicuously rich, purplish-blue expanded funnel-shaped blossoms, 2 inches wide.

Leptosiphon densiflorus and *L. androsaceus*.—Both remarkably neat dwarf species, with narrow, dark green, needle or Larch-like leaves, and furnished with numerous terminal clusters of variously shaded pale rose, pink, and white lobed, salver-shaped flowers, in July and August.—(*Gard. Chron.*, 1852, p. 213.)

REVIEWS.

ART. I. *Rural Architecture ; being a Complete Description of Farmhouses, Cottages, and Outbuildings, comprising Woodhouses, Workshops, Toolhouses, Carriage, and Wagon Houses, &c., &c., together with Lawns, Pleasure Grounds, and Parks ; the Flower, Fruit and Vegetable Garden, &c., &c.* By LEWIS F. ALLEN. 1 vol. 12mo., pp. 384, New York, 1852.

SUCH in part, only, is the title of a work, treating upon rural architecture, by Mr. Allen ; and one of the most useful and thoroughly practical volumes that our country has produced. It is just what it pretends to be,—adapted to the wants and condition of the great agricultural and rural population of our country.

A great deal has been written upon the improvement of our rural and cottage architecture, and nice plans have been published, which, to our taste, have had little about them in keeping with the true character of what should constitute a rural, or farmer's, residence.

We appreciate, as fully as any one, rural improvement in the right direction ; but it must be apparent to any person of taste, that, in too many instances, where improvement has been attempted,—where individuals have become imbued with a taste for something better than the old style of building,—they have erred as far on the other side, and have as much too profusely over-ornamented and frittered away the substantial and expressive character of their dwelling as before it was deficient in architectural proportions or beauty. A Gothic or Italian house, with its bay windows, verandas, &c., overrun with vines and plants, is all very well in its place, surrounded by parks and pleasure grounds, and properly set off by rich parterres of flowers and plantations of shrubs. But such a house on a fine farm of a hundred acres, with stables, corn-barns, outhouses, &c., and divided into different fields by stone walls or rail fences, is evidently out of place, and only impresses the beholder with a belief that the proprietor was entirely ignorant of what constitutes true taste.

Mr. Allen's book will do much to improve the style of rural residences ; it commends no tinsel display, neither does it go back to the old meaningless mode of building ; but, taking the medium path, he lays down the following truthful advice :—

The character of the farm should be carried out so as to express itself in everything which it contains. All should bear a consistent relation with each other. The farmer himself is a plain man. His family are plain people, although none the less worthy, useful, or exalted on that account. His structures of every kind should be plain, also, yet substantial, where substance is required. All these detract nothing from his respectability or his influence in the neighborhood, the town, the county or the state. A farmer has quite as much business in the field, or about his ordinary occupations, with ragged garments, out at elbows, and a crownless hat, as he has to occupy a leaky, wind-broken, and dilapidated house. Neither is he any nearer the mark with a ruffled shirt, a fancy dress, or gloved hands, when following his plough behind a pair of fancy horses, than in living in a finical, pretending house, such as we see stuck up in conspicuous places in many parts of the country. All these are out of place in each extreme, and the one is as absurd, so far as true propriety is concerned, as the other. A fitness of things, or a correspondence of one thing with another, should always be preserved upon the farm as elsewhere ; and there is not a single reason why propriety and good keeping should not as well distinguish it. Nor is there any good cause why the farmer himself should not be a man of taste, in the arrangement and architecture of every building on his place, as well as other men. It is only necessary that he devote a little time to study, in order to give his mind a right direction in all that appertains to this department. Or if he prefer to employ the ingenuity of others to do his planning,—which by the way, is, in most cases, the more natural and better course,—he certainly should possess sufficient judgment to see that such plans be correct and will answer his purposes.

The plans and directions submitted in this work are intended to be of the most practical kind ; plain, substantial, and applicable throughout to the purposes intended, and such as are within the reach—each in their kind—of every farmer in our country. These plans are chiefly original ; that is, they are not copied from any in the books, or from any structures with which the writer is familiar ; yet they will doubtless, on examination, be found in several cases to resemble buildings both in outward appearance, and interior arrangement, with which numerous readers may be acquainted. The object, in addition to our own designs, has been to apply practical hints gathered from other structures in use, which have seemed appropriate, for a work of the limited extent here offered, and that may serve to improve the taste of all such as, in building useful structures, desire to embellish their farms and estates in an agreeable style of architecture, at once pleasant to the eye and convenient in their arrangement.

The work is handsomely got up, and is embellished with designs for houses besides numerous engravings of other buildings.

ART. II. *The American Gardeners' Chronicle. A Monthly Journal devoted to every description* of Rural Economy, as Gardening, Horticulture, Botany, and Agriculture.* ANDREW MATTHORN, Editor and Proprietor. Monthly, 8 pages, quarto. Nos. 1 to 5. New York, 1852.

THIS is the title of a new gardening journal, edited by Mr. A. Maythorn. It is of modest pretensions, but we hope will meet with good success, and do valuable service in the cause of horticulture. New York is certainly behind her sister cities in horticultural progress and needs a journal of this description to awaken a greater interest in horticultural pursuits.

ART. III. 1. *Mr. Teschemacher's Address before the Plymouth County Agricultural Society, 1851.* Pamphlet, 8vo., pp. 23.

2. *Annual Report of the New Haven County Horticultural Society, for 1851.* Pamphlet, 8vo., pp. 44.

3. *A Treatise on the Potato; with an Essay to show the Cause of the Disease, and to suggest its Remedy.* By W. J. BRADFORD. Pamphlet, 8vo., pp. 46. Boston, 1852.

4. *Transactions of the Norfolk Agricultural Society, for 1851.* Pamphlet, 8vo., pp. 173.

5. *Transactions of the Essex Agricultural Society, for 1851.* Pamphlet, 8vo., pp. 182. Salem, 1851.

6. *Twenty-fourth Anniversary Address before the American Institute in the City of New York.* By C. T. JACKSON, M. D., F. G. S. F. &c. Pamphlet, 8vo., pp. 23. New York, 1851.

7. *Transactions of the Society of Maritime Horticulturists and Manufacturers for the year 1851: including the Speeches of Hon. Edward Everett and Hon. R. C. Winthrop. Pamphlet 5v. 1. pp. 57. 1852.*

All the above pamphlets have been upon our table awaiting a notice. They are all of varied interest to cultivators, and all who feel interested in horticultural or agricultural progress. Mr. Tschamacher's address is exceedingly interesting and we regret we have no room for extracts. The pamphlet of Mr. Bradford on the Potato Rot fully discusses the subject, but we apprehend he is just as far from a solution of the cause of this singular disease as others who have written upon it. The Transactions of the several societies are, as usual, full of interest.

MISCELLANEOUS INTELLIGENCE.

ART. I. General Notices.

GREAT EXHIBITION OF PLANTS AT GHEENT.—The interest attached to the grand exhibition, which has lately taken place here, was general over the greater part of Europe; arising, no doubt, from its only occurring once in five years. The unsettled state of the continent has protracted the present meeting three years later than usual, so that it is now eight years since it was last held; consequently the anxiety of all in any way interested in horticultural or botanical pursuits was stimulated in no ordinary degree; for almost every town of importance, from St. Petersburg to Brussels, was represented by a professor, amateur, or nurseryman. Continental exhibitions differ so widely in character from a great Chiswick show, that I shall endeavour to give the more striking features of it as they presented themselves, after a very minute inspection; for although I have witnessed several floral displays in different parts of the continent, this far excelled any that had come under my notice previously.

Ghent may be said to be a kind of horticultural emporium, where plants are manufactured for the chief continental establishments. The nursery business is in consequence carried on with great spirit and enterprise. The collections in these establishments boast of a vast variety of curious, rare and rich botanical treasures, which to an English nurseryman would be comparatively valueless; nevertheless, in most instances, these are chiefly sought after by foreign amateurs; we refer particularly to palms, cacti, tender conifers, and variegated plants. The latter are much in

request, and hence they formed a decided feature in the exhibition. In England the respective merits of our exhibitions are estimated by the degree of excellence shown in cultivation in connection with bloom; but not one in ten of the plants staged at this show exhibited either characteristic; notwithstanding this, however, the display was both striking and grand.

The casino in which the exhibition was held is a very large building, and exquisitely adapted for such purpose at this season of the year; for during the period the plants were in it, the external temperature fell as low as 14 degrees, Fahr. No injury, however, resulted, even to orchids, from this extreme cold. In the pilasters of the building flues are provided, and temporary stoves are placed in various directions; a pipe is fixed to the stove, and then thrust into a small aperture in the flue; these are kept going night and morning, and an agreeable warmth is maintained. A few minutes before the visitors are admitted, the pipes are drawn from the apertures, and the stoves bodily removed, with an alacrity beyond all praise, reminding one of the shifting of a scene in a theatre, so that the space for promenading was left quite clear. The visitors were placed in a most enjoyable atmosphere, in which they could examine the various productions with pleasure; no cracking of tent poles was to be feared, neither were we threatened by a northeaster or a tropical sirocco, which has consigned many thousand 5s. tickets to the flames in London; mud, boots and umbrellas were at a discount; ladies did not tremble for their last new bonnet, hence every countenance beamed with happiness and pleasure.

In order to understand how the exhibition is conducted, I may state that each exhibitor has his plants arranged for the judges, or rather jury, by Saturday morning, which day is devoted to deciding the prizes. On Sunday morning they are all staged and arranged, and everything is in order by 1 o'clock, when the members of the Society and strangers are admitted. On Monday and Tuesday the casino is opened to the public; in no instance is any money taken. The mode of deciding on the medals to be awarded is very different from our system in England. Two sections are formed, over which a president and secretary preside; the first section, consisting of 38 members from different parts of Europe, was presided over by Prince Troubetzkoy, of St. Petersburg; and the second, of 32 members, by the Duke d'Ursel, of Brussels. To each section is allotted its share of the exhibitions, and it proceeds to examine them individually when this is done. Their comparative merits are decided by ballot, and a day is occupied by this process. As the subjects for show are brought to the casino they are all severally numbered by the clerks, and the name of every plant is entered in full. This is not only a necessary but an indispensable point, as on the following morning the plants are grouped with a view to effective display as a whole, independent of ownership; and although it might appear that great confusion would arise in thus separating them, such is not the case, notwithstanding that the specimens exhibited amounted to no less than the enormous number of 3800. The entire exhibition presented a much more striking effect, and was perhaps more tasteful than any we are accustomed

to witness near London, arising from the circumstance, above alluded to, of setting off the plants to the best advantage: for example, a large semicircular stage had the back decorated with a variety of palms: the end of the stage, reaching up to the palms, was covered with a blaze of camellias. These palms were introduced in continuation, succeeding the camellia. Then there was a gorgeous bank of scarlet *Rhododendrons*. These were broken again by a bank of tree ferns, and the end was finished off by a mass of Ghent azaleas in full bloom. The reader may readily conceive what kind of effect such grouping would produce, in the case of a vast exhibition, varied at every turn with magnificent orange trees, huge palms, and tropical tree ferns, with miniature tree forests of all sorts of *arancaria* and other rare conifers.

Although I have stated that cultivation does not constitute the primary element in continental gardening, these were, nevertheless, numerous examples, of which the English gardener might well have been proud. At the extreme end of the casino, and fronting one of the great banks similar to that already described, was a beautiful specimen, in a tub, of *Deutzia gracilis*, measuring 5 feet across and 3 feet high, and in the highest floral perfection; while on each side of it stood a standard plant of the same kind, 6 feet high. These were grafted on *Philadelphus grandiflorus*. The stems had moss tied on them from top to bottom, in which had been deposited a quantity of common garden cress, which had vegetated sufficiently to produce a striking living green stem. The owner's name (Mr. J. Baumann) was represented in a similar singular manner; cress, sown on flannel, exhibited the letters most accurately. Large examples of finely cultivated *rhododendrons*, of the best scarlet and other varieties, were abundant and in splendid bloom. The same may be said of Indian and Ghent azaleas, which were both plentiful and good.

There were some first-rate examples of camellia, as regards both cultivation and bloom. They were pyramidal in form, and literally covered with flowers from the pot to the apex of the cone; these varied from 5 feet to 8 or 9 feet high. Orchids were neither so good nor so plentiful as might have been expected. This might have arisen from exhibitors being deterred from sending them, being fearful of the injury they might have sustained in the transit, owing to the extreme coldness of the weather. This defect, however, was adequately compensated for by magnificent exhibitions of *amaryllids*, which were grown and bloomed in the highest style of art, and they were in great variety. Hyacinths were equally abundant and fine. One feature in the exhibition, which attracted especial attention, was the hardy herbaceous plants in flower; they were quite as fine as I ever saw them in the open ground at their natural season. These were in great variety. Amongst them were *epimediums*, *adonis*, *tritonias*, *primulas*, *scillas*, &c. There were a number of bouquets, but nothing very remarkable—with the exception of one or two from Madame Saeyher, which were formed of white camellias, and each flower was bordered with *Lycopodium denticulatum*; another, similarly made up, had flowers of hardy heaths instead of *lycopodium*, the heath being white and the camellias red. This

latter came from Madame A. Marie. Dr. Siebold exhibited some pæonies, not in flower, of the tree kinds introduced by him from Japan. Cacti and succulents were present in multitudes, sufficient to interest the curious in these matters, but taste for such things has lost its keen edge even on the continent. Upon the whole, this exhibition displayed much skill, and certainly great enthusiasm, and the whole mode of conducting it reflected the highest credit on all concerned.

Precisely at 2 o'clock the approach of the two princes, the Prince de Flandres and the Duc de Brabant, was announced by a royal salute of artillery. The officers and members of the juries were alone suffered to receive them; these were in full dress, and many of them profusely covered with military and other honorary decorations. The two young Princes were attired in military uniform, and were accompanied by a brilliant suite. They were received with the greatest enthusiasm, and remained nearly two hours inspecting minutely the various exhibitions, and conversing occasionally with distinguished botanists and professors. In the evening a grand banquet was given to the princes and others attending the exhibition from all parts of Europe. The entertainment was on a scale of sumptuous magnificence, excelling anything I have ever seen, and it would have infused fresh vitality into a London alderman. On the two following days the entire mass of the population seemed bent on nothing else but inspecting this flower show. Colleges and schools, headed by their professors and teachers, might be seen moving in columns in the most orderly manner, to visit the great object of universal attraction. The country peasants, too, were adding their thousands to the throng. It might be asked how such a gathering could possibly get admittance, much more inspect the objects contained in a room. The military, however, prevented all disorder, and the whole working of the affair seemed like mechanism, so perfectly organized was everything connected with this great exhibition.—(*Gard. Chron.*, 1852, p. 196.)

CANTUA BICOLOR.—Having heard this plant complained of as being a shy bloomer, even so much so as to render it unworthy of cultivation, I beg to inform your readers that I have now a specimen of it in great beauty, which has been treated in the following manner. In the spring of 1850 I struck a small cutting of it, and continued growing it in the most rapid manner I could in a moist stove until the autumn of the same year, when it was gradually hardened and kept in a cold greenhouse through the winter. In spring I shifted it into an 8-inch pot, placed it in a vinery where there was bottom-heat (the house being warmed by Polmaise improved) in which it grew rapidly until midsummer. I then gradually inured it to the open air; water was withheld early in autumn, and it was placed on a north border until October, after which it was put in a cold house. In the second week in January it was placed again in the vinery, and it is now covered with flowers in every stage of development, forming a beautiful object in the conservatory. The soil which I use for it is equal parts peat, leaf-mould, and loam, with liberal drainage.—(*Gard. Chron.*, 1852, p. 181.)

PROTECTION OF GOOSEBERRY AND CURRANT TREE BUDS FROM BIRDS.—Covering the trees with littering dung has been recommended for this pur-

pose; no doubt that may answer, but it must look unsightly in a well kept garden. The plan which I have adopted is to purchase some of the very commonest white cotton thread, which can be had very cheap at any draper's shop, and to run it all over the trees from branch to branch, making it to resemble net-work. This of course affords no real covering to the trees, but the showy entangled appearance of such a number of threads scares away all birds, until the buds are so far advanced as to be safe from their attacks; it is generally known that they commit all the mischief they effect in one or two days, and that at a time when the buds have swelled to a certain size. I therefore never put my protecting material in operation until shortly before I expect they would commence their depredations. If it were applied much before that time, their sagacity would discover its harmless character, and its purpose would be defeated.—(*Gard. Chron.*, 1852, p. 181.)

CULTURE OF THE PELARGONIUM.—We have been favored with a copy of Mr. Dobson's excellent pamphlet on the cultivation of this flower. It proves, as we expected it would, one of the best guides which can possibly be put into the hands of a beginner. To general directions, given in a concise, straightforward, and practical manner, it adds a calendar of operations suited for every month in the year. Such treatises from persons qualified to teach, cannot fail to effect much good; and that Mr. Dobson is capable of giving sound instructions no one who has had the good fortune to see his plants at our great metropolitan exhibitions will for a moment doubt. He has long been a very successful exhibitor, and therefore all who wish to grow the pelargonium well, either for show or for the home stage, cannot do better than follow his directions. The following paragraph relating to the treatment of specimen plants for March, will give some idea of the way in which the different subjects are treated:—"All plants that are intended to flower in July will require stopping back the second week in this month. Keep the house rather close for a few days; this will help them to push forth their eyes. When their eyes are prominent, give air at all opportunities, by opening early in the morning, and shutting up early in the afternoon—say 3 or 4 o'clock, according to circumstances; carefully avoiding all easterly winds. Draw the syringe over the plants once or twice a week after shutting up, with plenty of sunlight and warmth. The May plants will be fast showing their trusses. In watering, give sufficient to moisten the whole ball of earth." As regards liquid manure Mr. Dobson says:—"Begin in February to water with weak manure water once or twice a week; one peck of sheep, and half a peck of cow-dung, to about 25 or 30 gallons of water, is the only stimulant I use." In order to make this intelligible, however, it will be necessary to state the kind of soil Mr. Dobson employs, which is the top spit full of fibre off a meadow, mixed with one-third green stable dung thoroughly incorporated and laid up in a heap for about two years, and well chopped over during winter. When ready for use he says, before potting, "mix up with the loam four shovels of rotten cow-dung, the older the better, to one barrowful of mould; to this add an 8-inch potful of silver sand." Such is the kind of material out of

which Mr. Dobson rears the lovely masses of floral beauty, which are annually so much admired at our great flower shows; but soil, we need hardly say, is not the only thing that is necessary to attend to, in order to have fine pelargoniums. There are many other items that it is equally essential the grower should be acquainted with; but for the acquisition of these, we must refer him to the book itself.—(*Gard. Chron.*, 1852, p. 183.)

TROPEOLUM LOBBIANUM.—Amongst the many interesting plants capable of adorning our greenhouses, this may fairly claim notice as one well adapted for this purpose. It is a plant of very easy cultivation, and one that can be used to great advantage in a variety of ways, and as recommendations for general use these qualities are highly favorable. This *tropæolum* is very easily raised from cuttings, in the usual way, with soft wooded things, to grow it in a pot for winter flowering. About the end of July or beginning of August—this is a very good time (but sooner or later will do)—take a 4 or 5-inch pot; prepare in the usual way any friable materials, such as is suited to propagate soft-wooded plants will do very well; prepare the cuttings in the usual way, then place them near to the edge of the pot, after which place the pots in a frame where they can be kept close for some time; they will strike roots in a fortnight or three weeks' time; when they are well established, and have begun to grow, prepare a large pot or box; this may be in a great measure guided by the situation or place where you intend to grow them; let there be good drainage; compost, equal parts leaf mould and turfy loam, with a fair portion of sand; these well mixed together, but not made fine, being somewhat rough, will answer better, and a means of assisting to ensure good drainage; if a pot, say from 12 to 15 inches wide, after placing in the drainage, and filling up in the usual way to a certain height, take the pot having the cutting well rooted and growing; turn them out carefully upon your hand, then place them into the middle of the prepared pot half filled with the prepared compost; this done, fill up all round to the required height; then after they have taken root into the fresh compost, top the plants, and place round them a few neat, straight, branchy stakes, and these may be made into shape or height to suit taste: it will be necessary to tie them outwards to these at first, until they once take hold, but afterwards they will not require much tying, as they hitch themselves to whatever they can reach, only requiring regulation; they are likewise good for trellis-work, and by judicious means and attention in renewing them before they become "shabby," you may always have them in flower, less or more, all the year. By such treatment in pot culture I have repeatedly had them to keep very gay all winter; of course their flowers during the dull period of winter have not that gay and interesting appearance which they possess during the genial and warm sunshine of summer.—(*Gard. Jour.*, 1852, p. 227.)

THE PROPER PERIOD TO APPLY LIQUID MANURE.—The great importance of the liquid manure question, and the numerous inquiries made of us as to the application of this fluid, lead us once more to resume the subject, restricting ourselves on the present occasion to a single point, namely, the period in the growth of a plant when it may be most advantageously applied, or should be altogether withheld.

It may be understood that part of the secretion, it must be borne in mind—1. that liquid manure is an agent ready for immediate use, its main nature being to hasten that reality; 2. that its effect is to produce exuberant growth; and 3. that it will continue to do so as long as the temperature and light required for its action are sufficient. These three propositions, rightly understood, point to the true principles of applying it: and, if they are kept in view, no mistakes can well be made. They render it evident that the period in the growth of a plant, at which it should be applied, depends entirely upon the nature of the plant, and the object to be gained.

If, for example, WOOD and LEAVES are all that the cultivator desires to obtain, it will be evident that liquid manure may be used freely from the time when buds first appear, until it is necessary that the process of ripening the wood shall begin. Wood cannot ripen so long as it is growing: wood will continue to grow as long as leaves form, and its rate of growth will be in direct proportion to their rate of development: therefore, in order to ripen wood, growth must be arrested. But the growth of wood will not be arrested so long as liquid manure continues to be applied, except in the presence of a temperature low enough to injure or destroy it. Hence it is obvious that liquid manure must be withheld from plants grown for their wood and leaves, at the latest, by the time when two thirds of the season shall have elapsed. To administer it in such cases towards the end of the year would be to produce upon it an effect similar to that caused by a warm wet autumn, when even hardy trees are damaged by the earliest frost.

In the case of FLOWERS it is to be remembered that the more leaves a plant forms the fewer the blossoms in that season; although perhaps the more in a succeeding season, provided exuberance is then arrested. The application of liquid manure is therefore unfavorable to the immediate production of flowers. It is further to be remarked that even although flowers shall have arrived at a rudimentary state at a time when this fluid is applied, and that therefore their number cannot be diminished, yet that the effect of exuberance is not only to cause deformity; petals become distorted, the colored parts become green, and leaves take the place of the floral organs, as we so often see with roses grown with strong rank manure. In improving the quality of flowers, liquid manure is therefore a dangerous ingredient; nevertheless, its action is most important, if it is rightly given. The true period of applying it, with a view to heighten the beauty of flowers, is undoubtedly when their buds are large enough to show that the elementary organization is completed, and therefore beyond the reach of derangement. If the floral apparatus has once taken upon itself the natural condition, no exuberance will afterwards affect it; the parts which are small will simply grow larger and acquire brighter colors; for those changes in flowers which cause monstrous development, appear to take effect only when the organs are in a nascent state—at the very moment of their birth. Hence it is clear, that in order to affect flowers advantageously by liquid manure, it should be given to plants at the time when the flower bud is formed and just about to swell more rapidly.

With FRUIT it is different; the period of application should there be

when the fruit, not the flowers, are beginning to swell. Nothing is gained by influencing the size or color of the flower of a fruit tree; what we want is to increase the size or the abundance of the fruit. If liquid manure is applied to a plant when the flowers are growing, the vigor which it communicates to them must also be communicated to the leaves; but when leaves are growing unusually fast, there is sometimes a danger that they may rob the branches of the sap required for the nutrition of the fruit; and if that happens, the latter falls off. Here, then, is a source of danger which must not be lost sight of. No doubt, the proper time for using liquid manure is when the fruit is beginning to swell, and has acquired, by means of its own green surface, a power of suction capable of opposing that of the leaves. At that time, liquid manure may be applied freely, and continued, from time to time, as long as the fruit is growing. But, at the first sign of ripening, or even earlier, it should be wholly withheld. The ripening process consists in certain changes which the constituents of the fruit and surrounding leaves undergo; it is a new elaboration, which can only be interfered with by the continual introduction of crude matters, such as liquid manure will supply. We all know that when ripening has once begun, even water spoils the quality of fruit, although it augments the size; as is sufficiently shown by the strawberries prepared for the London market, by daily irrigation. Great additional size is obtained, but it is at the expense of flavor; and any injury which mere water may produce, will certainly not be diminished by water holding ammoniacal and saline substances in solution.—(*Gard. Chron.*, 1852, p. 131.)

THE TREE VIOLET.—While several varieties of double violets are generally esteemed and extensively cultivated, the real merits of the tree violet are but little known. It is true that, under ordinary out-door cultivation, it does not appear to possess attractions superior to other kinds; it even assumes a more prostrate form, and on this account it is often confounded with the old double blue violet, from which it differs in several particulars, the principal being a perpetual habit of blooming, while its rival produces flowers at one season only. It is, therefore, as a pot plant, that the tree violet becomes more especially worthy of attention; and under this kind of management, its profusion of flowers, and delightful fragrance, render it worthy of extensive cultivation.

The plan I have found eminently successful in its treatment is to take young rooted layers in April, and plant them in light rich soil, on a border having an eastern aspect. During the summer the plants are liberally supplied with water, and as they progress in growth all root-suckers and side shoots are removed. By the middle of September they may be taken up, potted into 5-inch pots, and placed in a cool frame, where in a short time they will commence blooming. As autumn advances I remove them to a light and airy part of the greenhouse, where they continue to flower until April; at that time they are shifted into pots a size larger than those they occupy, and again receive the shelter of a frame. I prefer this season for the subsequent annual shifts. About the middle of May they are placed out of doors under a north wall, care being taken to prevent worms from

getting into the pots, by placing them on a layer of coal ashes; all decayed foliage and suckers are removed, and if large plants are desired, it is requisite to take off all side shoots during this season. On the approach of autumn frosts, the plants should be conveyed to their winter quarters, and treated as before. If due attention has been paid to keeping them in a healthy growing state, they will now be furnished with strong stems, 4 or 5 inches high, surmounted by a crown of large fragrant flowers; if necessary, the plants may be neatly staked, but under good cultivation supports will not be required.

When the season of potting again arrives, I shift into 8-inch pots, first carefully removing any unhealthy roots, or worn out stagnant soil; in the latter case it is preferable to shake away the whole of the ball, destroying as few fibres as possible; a tier of side shoots may now be allowed to proceed from the crown of the plant, these will naturally bend downwards to the edge of the pot; and a second tier being afterwards formed, as the crown advances in growth, fine pyramidal specimens from 12 to 15 inches in height will be obtained. When in perfection, these will be studded with flowers from the edge of the pot upwards. In subsequent shifts, the ball should be carefully reduced, so as to allow repotting into the same sized pot as that the plants was growing in. I find 9 or 10-inch pots sufficient for the largest size; the plants may be annually shifted in these for some years with advantage.

The compost which I find most suitable for this plant consists of two parts good turfy loam and one part well decomposed leaf soil, adding a sufficiency of sharp sand to render the material porous.—(*Gard. Chron.*, 1852, p. 132.)

ART. II. Domestic Notices.

THE WINTER IN KENTUCKY.—The mercury, on the morning of the 20th January, stood at 23° below zero. Our peach trees are killed—that is, those that are three years old and upwards. Indeed, ornamental trees, that had stood unhurt for fifteen years past, were entirely killed the past winter. Japan lilies, with slight protection, unhurt.—Yours, J. S. DOWNER, *Elkton, Ky., April 9, 1852.*

THE WINTER IN MARIETTA, OHIO.—We have had one of the coldest winters ever felt in Ohio, since the settlement of the state. The larger portion of our peach trees are killed, except young vigorous trees, and the fruit buds of all. Many other tender plants are destroyed, especially tree pæonies, except where thoroughly protected with thick coverings. Several of the new shrubs from China, by Fortune, have proved thoroughly hardy, showing their habit to be formed in a severe climate. Amongst those with me, are Weigelia, Spirea acutifolia, Forsythia viridisima—this has suffered some. Magnolia conspicua is also hardy.—Yours, S. P. HILDRETH, *Marietta, Ohio, April, 1852.*

ART. III. *Horticultural Societies.*

BUFFALO HORTICULTURAL SOCIETY.—*January 20th.*—The society met at Lewis Eaton's,—the President in the chair.

Fruits Exhibited:—By L. Eaton, apples, Baldwin, Eaton. By Mrs. Vandeventer, two varieties for a name. The committee appointed to publish the transactions of the past year, reported progress. After a discussion of the apples presented, and on other subjects, the society adjourned.

February 17th.—The society met at Benjamin Hodge's,—Vice President Taintor in the chair.

Fruits Exhibited:—By B. Hodge, apples, American Golden Russet, Beauty of Kent, Brabant Bellefleur, Carthouse, Esopus Spitzenburg, English Russet, King, Lyman's Pumpkin Sweet, Lady, Minister, Michael Henry Pippin, Pownal Spitzenburg, Roxbury Russet, Swaar, Westfield Seek-no-further. Pears, Glout Morceau, Moccas, Pound. By W. R. Coppock, apples, Yellow Newtown Pippin, Sweet Pearmain, Swaar, Northern Spy, Crow's Nest Russet. By L. F. Allen, apples, Ladies' Sweet, Spencer. By W. Granger, apples, Baldwin, Northern Spy, Swaar.

The following were tested and discussed:—Apples, Ladies' sweet, American Golden Russet, Northern Spy, Sweet Pearmain, Minister, King, Newtown Pippin, Spencer, Carthouse, Westfield Seek-no-further, Brabant Bellefleur. Pears, Glout Morceau.

The Treasurer made his annual report, which was laid on the table until the next meeting.

The committee on the library reported a list of works which had been purchased for the use of the society.

W. R. Coppock stated that Messrs. Mason and Lovering had tendered to the society the gratuitous use of a room for the purpose of holding the semimonthly meetings, whereupon, on his motion, their offer was accepted, and the thanks of the society unanimously voted to them therefor.

The committee on publication made a report, which, after an animated discussion, was referred back to the committee. After which the society adjourned.

March 3d.—The society met at Lewis F. Allen's,—the President in the chair.

Fruits Exhibited:—By L. F. Allen, pears, Easter Beurré, from Ellwanger & Barry, of Rochester, very fine. By B. Hodge, apples, Fallawater, Fameuse, Jonathan, Lovett's Sweet. By W. Granger, apples, Swaar, Baldwin, Roxbury Russet, Esopus Spitzenburg. By L. Eaton, apples, Baldwin.

The following were tested and discussed:—Apples, Fameuse, Jonathan, Swaar, Baldwin. Pears, Easter Beurré.

The Treasurer's report was taken up and accepted. Adjourned.

March 16th.—The society met at Abner Bryant's,—the President in the chair.

Fruits Exhibited:—By A. Bryant & Son, apples, Baldwin, Esopus Spitzenburg, Westfield Seek-no-further, Lady, Fameuse, Tolman Sweet, R. I.

Greening, Golden Russet, Pomme Gris, Winesap. By B. Hodge, Northern Spy, Swaar, Brabant Bellefleur, Lyman's Pumpkin Sweet. By L. Eaton, Baldwin.

The Osage Orange was stated by several members to be but slightly injured, and its fitness for a hedge plant was generally admitted.

The following pears were discussed:—French Jargonelle, Louise Bonne de Jersey, Stevens' Genesee, V. M. Leon le Clerc, Duchess d'Angouleme, Winter Nelis, and Orange.

The report of the committee of publication was taken up and accepted as amended.

On motion of W. R. Coppock, a vote was passed recommending to the public the agricultural warehouse of Messrs. Mason & Lovering, which was ordered to be published. The society then adjourned. Jno. B. Eaton, *Recording Secretary*.

HORTICULTURAL SOCIETY OF NEW YORK.—This association was organized in New York on Monday evening, March 22d.

Mr. Pell, of Pellham, occupied the chair,—and Robert Curtis, Secretary.

Mr. Andrew Maythorn, the first proposer of the society, being called upon, stated the objects of the meeting. After remarks from Mr. M, and other gentlemen, the committee to frame a constitution and by-laws, sent in their report, which was read and adopted.

The following gentlemen were then elected officers for the year:—

President.—(Vacancy.)

Vice Presidents.—W. C., N. Waddell, W. A. Haines, N. R. Anthony, Shepherd Knapp.

Treasurer.—W. W. Crane.

Corresponding Secretary.—P. B. Mead.

Recording Secretary.—R. Curtis.

The election of President was put off till another meeting.

A committee of five were appointed to take measures respecting an exhibition on the fourth week in May, and report at the next meeting. Adjourned for two weeks.—(*Amer. Gard. Chron.*)

ART. IV. *Massachusetts Horticultural Society.*

Saturday, March 6.—Exhibited. FLOWERS: From Hovey & Co., fine seedling azaleas. From P. Barnes, a pretty plant of *Pimelea Neippergiana*, white; also, very fine specimens of *Cyclamen persicum*. From A. McLennan, fine specimens of *Cyclamen persicum*. From J. Nugent, *Erica caffra*, and seedling verberna.

GRATUITIES AWARDED.

To A. McLennan, for *Cyclamen*, \$2.

To P. Barnes, for *Cyclamen*, \$2.

To Jas. Nugent, for *Erica caffra*, \$2.

[The above meeting was omitted in our last Report.]

March 27.—Exhibited. FRUITS: From J. F. Allen, Black Hamburgh and Isabella grapes, in fine state of preservation; they were packed in dry cork dust, in the same way in which the foreign kinds are imported; also, figs and Bergamot Easter pears. From E. Wight, Roxbury Russet and Nonsuch apples.

April 3.—The stated quarterly meeting of the Society was held to-day,—the President in the chair.

The President, from the Executive Committee, reported that they had considered the subject referred to them respecting the salary of the Treasurer, and recommend that it be increased to \$100 per annum; and that they deemed it unnecessary to require him to give bonds.

Mr. C. M. Hovey, from the Committee appointed for that purpose, read the following Report:—

The Committee to whom was referred the subject of the Massachusetts Horticultural Society subscribing one hundred dollars in aid of the completion of a monument to the late Gen. H. A. S. Dearborn, have had the same under consideration, and beg leave to submit the result of their deliberations.

Your Committee do not deem it necessary to enter into any eulogium of the life and character of Gen. Dearborn. For the last thirty years his name has been before the public in connection with every improvement in horticultural science; and for more than twenty-three years, especially in connection with our Society. The original Constitution was framed and drawn up by Gen. Dearborn: he was the first President: as Chairman of the Library Committee he made the first collection of books: he opened and kept up a correspondence with amateur and professional cultivators and nurserymen throughout Europe, the results of which have been the elevated position and the influence it now yields abroad and at home: through his advice and with his coöperation, the valuable seedling pears of De Van Mons were added to our collections, even before they found their way into the hands of his nearest neighbors: to our list of American fruits, at that time exceedingly limited, he added the Dearborn's seedling: but his crowning effort was the establishment, laying out, and the completion of Mount Auburn Cemetery, a monument indeed of his taste and knowledge of the great art of landscape gardening: and of his foresight in providing for the future wants of the Society, extending its usefulness, and elevating its position. Yet, with an enthusiasm never slumbering, never idle, he has left us—almost his last earthly labor—the rich legacy of a history of the Society, from the first preliminary steps of its organization up to the period of his death—a work comprising some seventy or eighty pages in the last and concluding number of the transactions, soon to be published.

And what service can the Society now render, for labors so generously and disinterestedly performed, more fitting, more appropriate, than that they may be allowed to contribute of their means towards the completion of a monument to his memory? Your Committee have no desire to aid in so laudable an object for the mere purpose of erecting a splendid mausoleum, attractive only from its amplitude of size, or its elaborateness of finish, but

for that nobler sentiment which wells up from every lover of nature—of every friend of art—of every worshipper of the beautiful—and of every cultivator, whether of the humblest plant or the loftiest tree—an acknowledgment of the debt they all owe to one who was the foremost of his time in every rural enterprise; who omits no opportunity, neglected no means to do all that lay in his power to diffuse a taste for the picturesque and beautiful, or aid in rendering more general the peaceful and pleasing pursuit of horticultural art.

In conclusion, your Committee would express the opinion that they believe the members of the Society will ever deem it one of their noblest acts, in contributing to the erection of a monument to Gen. Dearborn; and they would respectfully report that an appropriation from the treasury, of one hundred dollars, be made for that object.

Boston, April 3, 1852.

SAMUEL WALKER, } Committee.
C. M. HOVEY, }

It was unanimously accepted.

The President, for the committee, reported in favor of appointing a committee of correspondence with the Paris committee, in accordance with the proposition of M. Vattermare.

The President, Corresponding and Recording Secretary were appointed the committee.

Mr. C. Newhall, from the committee appointed for that object, reported in favor of a service of plate to Ex-President Walker, of the value of \$150.

Mr. C. M. Hovey also submitted the following Report, upon the propriety of offering a medal or piece of plate to J. M. Ives, of Salem, for the introduction of the marrow squash:—

The committee to whom was referred the subject of the propriety of awarding a suitable piece of plate, or a medal, to J. M. Ives, of Salem, for the production or introduction of the Autumnal Marrow Squash, beg leave to report:—

That they believe it to be one of the first objects of the society to encourage the growth or introduction of new and improved varieties of flowers, fruits, and vegetables, and that in no way can its funds be more appropriately bestowed than for such objects. It encourages a spirit of emulation. It induces a greater degree of interest in everything pertaining to cultivation; and, finally, and what is perhaps of the greatest good, it supplies us with new and superior productions, adding to the luxuries of our tables, and to the wealth of the country. If "he who makes two blades of grass to grow where one grew before," is a "public benefactor," he certainly is who loads our tables with the delicious Seckel in place of the austere pear; the Baldwin in the place of the Wild Crab; or the Crawford in place of the tasteless peach.

The improvement of our vegetables is a subject of great importance; and there is room to accomplish much. In that valuable product Rhubarb, twenty-five years has done but little; for it is only recently that large and fine flavored kinds, free from the medicinal character, have been obtained.

So too with the Squash; with the exception of the Autumnal Marrow, lit-

the improvement has been effected ; and it is from the fact, that a variety so decidedly remarkable has been added to the list, that your Committee deem it just and proper, that some token of reward should be given to encourage others to go on in their endeavors to improve this as well as every other class of culinary vegetables.

In regard to the origin of the Autumnal Marrow, your Committee do not now intend to enlarge ; it is sufficient for them to know that it was first introduced to this neighborhood by Mr. J. M. Ives, of Salem, and is so peculiar to our vicinity, that it is called the " Boston Marrow." To no other source can your Committee trace it.

They would therefore report that a piece of plate, with an appropriate inscription, or a medal of the value of fifty dollars, be presented to Mr. Ives, for the introduction of the marrow squash.

Boston, April 3, 1859.

C. M. HOVEY, } Committee.
HENRY BRADLEE, }

The same Committees were appointed to carry the above votes into effect.

The President read a communication from M. Vattermare, which was referred to the Corresponding Committee.

Adjourned four weeks, to May 1.

Exhibited. FLOWERS: From Hovey & Co., specimens of their seedling *Verbena America*, which the Committee state have "the appearance of a phlox," from the large size of the trusses, and their erect habit. From A. Bowditch, *Amie Vibert* roses.

FRUIT: From T. Page, fine *Roxbury Russet* apples. From E. Wight, *Danvers Winter Sweet*, *Roxbury Russet* and *Nonsuch* apples. From G. W. Haven, *Ledge Sweet* apples, in fine order, and the Committee consider it the best long keeping sweet apple ever presented to the Society.

April 17.—Exhibited. FRUITS: From H. Vandine, *Long Rose Water* pears. From A. Bowditch, *Boston Pine* strawberries.

April 24.—Exhibited. FRUITS: From J. Perham, *Lyndeborough, N. H.*, Seedling sweet apple, of medium size, yellow, with red streaks,—a valuable late keeping sweet apple. From Hon. I. Davis, *Worcester*, a fine melon, weighing 12 ounces.

HORTICULTURAL OPERATIONS

FOR MAY.

FRUIT DEPARTMENT.

RARELY have we known a more unfavorable April. Vegetation is now but little more advanced than at the first of the month. Two snow storms and an unusual number of cold rainy days, have been the prevailing characteristics of the month. The quantity of rain which fell was immense, flooding all low lands, and even completely saturating all but the very

dryest land, so as to put a stop to all kinds of labor in the garden or orchard. This weather has consequently put back all kinds of work, and, if the weather should turn up warm, crowding two months' labor into one. The cultivator must consequently now make up for lost time; commence at once to dig and plant, and accomplish everything as speedily as can be done with safety.

GRAPE VINES, in the early houses, will now begin to color their fruit. See that the laterals are kept tied in. Air the house early in good weather, and preserve a genial atmosphere by occasionally watering the walks, gradually dispensing with this operation as the fruit changes, until it may be discontinued altogether when the grapes are nearly ripe. Look over the bunches and see that they are properly shouldered. Vines in the greenhouse will now be setting their fruit; keep a little closer atmosphere, and discontinue watering the house till the fruit is well set, when it should be resorted to again more liberally than before, as the weather is warmer and evaporation greater. Vines in cold houses will soon be showing their flowers, and will need the same attention given to greenhouse vines in our last number. Finish pruning and training vines in the open ground. Dig and manure vine borders this month.

PEACHES, in pots, will now need a great quantity of air, and liberal supplies of water, with occasional syringing. Now is a good time to pot peach trees, if more are wanted.

RASPBERRY and **BLACKBERRY** vines should be now tied up to strong stakes, the ground well manured and dug.

STRAWBERRY BEDS will need attention. Top dress, if they need it, with old decayed manure, and **THOROUGHLY WEED** the plants. When they have set their fruit, cover the ground with clean straw or short mowings of the lawn. If the ground is poor, apply a light dressing of guano. This month is the best time to make new beds.

GRAFTING should be completed now, or as soon as convenient.

PRUNING should be attended to. Pyramidal trees should be well headed in, and all the small, useless wood cut back to two eyes.

TREES, of all kinds, should be got into the ground as early as possible.

INSECTS: look after them. Red spiders, on the peaches and grapes, will be troublesome; and caterpillars, in the open air, will need "routing out" as soon as they can be detected.

FLOWER DEPARTMENT.

The greenhouse and conservatory will now be gay with pelargoniums, verbenas, roses, mimuluses, calceolarias, cinerarias, &c., and pains should be taken to keep up a fine display by removing those done blooming and supplying their place with others from a reserve house.

This is the time to re-pot many plants, previously to their removal to the open air, where they often suffer for want of it; all the fast growing kinds, kept in-doors, will require it. Camellias, azaleas, &c., will now be making their growth, and will require liberal supplies of water and repeated syr-

inging in all fine weather. Prune in now all climbing plants which have done blooming, as they soon begin to make their wood for next year. Shift and bring along Japan lilies, fuchsias, achimenes, &c., intended for decorating the conservatory from July to September.

PELARGONIUMS will now be the most attractive objects where they have been well grown; indeed, nothing can be finer than the new *fancy* varieties, such as *Annais*, *Jehu Superb*, *Perfection*, *Jenny Lind*, &c.; such, too, as *Orion*, *Forget-me-not*, *Centurion*, &c., are superb; keep near the glass; air very freely; water liberally, using liquid manure or guano occasionally; and by all means keep down the green fly; when in full bloom, they may be shaded in the middle of the day.

CAMELLIAS will be growing vigorously and should be watered freely.

AZALEAS will require frequent syringing, and occasionally little liquid guano. Nip off the tops of the young shoots, if dwarf, compact, bushy plants are wanted. Re-pot now if they require it.

JAPAN LILIES, in pots, should be shifted if they require it; water more liberally now.

CHRYSANTHEMUMS may yet be propagated; those already under way should be kept dwarf and bushy by pinching off the tops.

HEATHS will require attention. Re-pot all such as require it; and as soon as the weather is good, put them out in frames, where they do better than in warm greenhouses. **EPACRIS** may have the same treatment.

FUCHSIAS, intended for large specimens, should be shifted often, using a light rich soil. Water with liquid guano.

MONTHLY CARNATIONS, done blooming, should be layered, in order to get good strong roots for next season.

TORENIA ASIATICA, intended for large specimens, should be shifted and placed in a good situation.

GLOXINIAS, **ACHIMENES** and **GESNERAS**, will require re-potting.

STEPHANOTUSES, **SCHUBERTIAS**, and similar climbers, should be regularly trained up, and not be allowed to ramble about until so matted together as to injure their growth.

ORANGE TREES may be re-potted now; prune them freely, if they require it to be brought into good shape.

ACACIAS, of the different kinds, beginning to grow freely, will require a shift into larger pots.

DAPHNES, **LAURISTINUS**, and other shrubs, should be re-potted if they require it.

GREENHOUSE PLANTS, of all kinds, should now be propagated, as they do better than when the season is more advanced.

FLOWER GARDEN AND SHRUBBERY.

But little out-door work has yet been accomplished, and consequently May will be a busy month. The first thing will be to put in order ground intended for planting, and to finish up all such work at once. Walks and borders must be looked after; repair and put in order the former, and if the edgings, whether of box, thrift or grass, are not in good condition, replant

them. Top-dress lawns with guano, applying from one hundred to three hundred pounds to the acre, according to their condition, whether poor or rich, and give them a good rolling with a heavy roller. Grass edgings should always be cut before the borders are dug, as it can then be done more neatly. Manure and prepare beds intended for bedding out plants, and proceed with the setting out of the plants as soon as danger of frost is over.

Now is the time to prune roses, as they start stronger when it is done in season. Give them a good heading in, excepting the hybrid Chinas, hybrid Bourbons, and Persian Yellows, which should be left at full length, only taking out the small shoots. Mosses are often bare of bloom for want of severe pruning; as a general rule, every shoot should be cut back to three or four eyes. Train up Prairie and other running roses.

DAHLIAS may be planted this month, towards the latter part, or as soon as all danger of frost is past.

HERBACEOUS and TREE PÆONIES should be transplanted now.

CARNATIONS, PICOTÉES and PINKS, should be planted out in beds; the earlier it is done, the stronger they will bloom.

HERBACEOUS PLANTS, of all kinds, should be re-set, when they have been standing three or four years.

PANSIES should be top dressed with very old manure, covering the ground about an inch deep; if dry weather, and fine blooms are desired, water liberally.

GLADIOLUSES, of all the summer blooming kinds, should be planted now.

BEDDING PLANTS should be put out the last of the month.

ANNUALS, of all the hardy kinds, such as asters, larkspurs, candytuft, sweet peas, clarkias, morning glory, poppies, eschscholtzias, marigolds, &c., may be planted immediately.

TENDER ANNUALS, raised in the hotbed, should be removed to the borders this month.

VEGETABLE DEPARTMENT.

Planting having been deferred on account of the weather, proceed now to get in all early crops as speedily as possible. Prepare ground for successional sowings, and for transplanting such vegetables as have been forwarded in hotbeds.

RHUBARB PLANTATIONS should have a heavy coat of manure, which should be well spaded in. New beds may be made now.

HOTBEDS will require attention, particularly those filled with cucumbers, melons, egg plants, &c. Keep up a good heat by renewed linings.

TOMATOES and PEPPERS may be transplanted as soon as the weather is favorable.

MUSHROOM BEDS may be made now; old beds, made in the autumn, if relined, will give a good early crop.

BEANS, CUCUMBERS, SQUASHES, CORN, and all kinds of vegetables, should be planted this month.

ASPARAGUS BEDS may be made now; let the ground be well trenched, eighteen to twenty-four inches deep, and made rich and light.

THE MAGAZINE OF HORTICULTURE.

JUNE, 1852.

ORIGINAL COMMUNICATIONS.

ART. I. *The power of Soils to absorb and retain Ammonia.*

By DR. LINDLEY. With Remarks on the use of Guano.
By the EDITOR.

IN our previous volumes we have given our readers our views upon the use of ammonia as a manure, particularly in its application to fruit trees; we had then had less experience in its use than now; but further time, so far from lessening our opinion of its value, has only served to convince us that it is one of the most economical and valuable substances the cultivator can use; and where manure is expensive, or difficult to be procured, the only article which can supply its place.

We are aware that it has not the merit of being a "special manure," in the general use of that term, and hence has not been tried by those who believe that *peat* and *ashes* are the only substances which can revivify or reanimate a tree. But let those who believe all they read follow such advice, and they will soon find that something more is required than the elements which are indicated by the analysis of the chemist.

An article by Dr. Lindley appeared some time since in the *Gardener's Chronicle*, on the power of absorbing and retaining ammonia which experiments have shown the soil to possess, and we had intended to find room for it in our pages; but the favors of our correspondents prevented at the time,

and we now embrace an early and seasonable opportunity to supply it, assured that it will be read with satisfaction by every cultivator :

The power of absorbing and retaining ammonia, which most experiments have shown the soil to possess, probably will explain the reasons why in certain cases, on particular soils, and applied to particular plants, the salts of ammonia sometimes appear to produce little benefit. Several observers have at different times stated, that to their great surprise, they had found many of the salts of ammonia, not only without any beneficial influence on vegetation, but even absolutely hurtful to plants.

It was this which some years since led Boussingault to the conclusion, that salts of ammonia were only useful to plants when the ammonia was either combined with carbonic acid or some destructible organic acid.

Plants fed with water alone, or planted in pure siliceous sand, and watered with solutions of various salts of ammonia, in place of being benefited, were killed ; although the same plants, when grown in common soil, and watered with the same ammoniacal solutions, were certainly rendered more healthy and vigorous. The conclusion to which Boussingault was at last led, was, that the only carbonate, and, therefore, that in all cases where the other salts of this alkali were used as manure, the acid must, by some process of chemical decomposition, be removed, and replaced by the carbonic. A key to some of the difficulties which these observers could not explain is now given to us, in the fact that an ordinary fertile soil possesses the power of decomposing the salts of ammonia, and by the acid of lime displacing the acid with which the ammonia is combined. It has often been stated by careful observers that they could find no difference in the relative value of the various salts of ammonia as manure, and that they all acted perfectly alike on plants ; this is not what might reasonably be expected, but it would, of course, follow as a necessary consequence from the power of the soil which has lately been brought to light.

There is, however, still another question which must be satisfactorily explained, before we can have any very accurate idea of the precise mode in which these changes are effected; and that is, the subsequent process whereby the ammonia which the soil has absorbed is given off again, and taken up by plants. All that is now shown is, that the soil is able to fix a considerable quantity of ammonia, which is retained by it with a good deal of force, so that mere subsequent washing will not remove it. By whatever means it is that the soil is able to do this, it is tolerably certain that there exists some means whereby plants are able to avail themselves of the ammonia thus arrested, and stored up by the soil. Whether these means are simply chemical; whether they depend in any way on the influence of light, or whether they are to be traced to the vital powers of the plant and the peculiar structure of the roots, is not yet ascertained; but two things are plain; firstly, that the soil takes up from rain-water all the ammonia which the latter contains; and, secondly, that the soil again parts with some of this ammonia to plants growing in it.

The power of any soil thus to absorb ammonia is unquestionably limited; and if we continue to filter a weak solution of ammonia through a portion of any soil, though the water which comes through at first will not contain any ammonia, yet, after a short time, and when the soil has taken up as much as it is able to absorb, then the water which passes through will be found to contain as much ammonia as it did before it was thus filtered. The quantity which the soil is able to retain is not great, but it is abundantly sufficient for the wants of plants. Until we know the mode in which clay subsequently parts with the ammonia which it has absorbed, we shall not be able to devise the best means of preventing the loss of that substance, or of making the most of the power in question. There is, however, every probability that by continued exposure to the air alone, much of the ammonia which has been absorbed during a summer shower, for example, is again slowly given off; an effect which the mere gradual evaporation of the surface water

would readily yield its ammonia. Hence it is not to be expected that any soil, however constituted, could by such exposure to the air lose more very far than a hundredth of almost certain more than a hundred times of it : because the surface quantity which it could possibly receive is not one day more than its very surface : and surely it is not that the excessive rejection of such ammonia to the soil would in time become a considerable quantity : for as it would take a long time, and as during the whole of this time the soil would be necessarily exposed to the influence of evaporation, and the other causes, whatever they may be, which tend to drive ammonia again from the soil : so it is not to be expected that, even under the most favorable circumstances, any large accumulation could take place.

It will be an important subject of inquiry, to ascertain how much ammonia a good clay soil is able to absorb under the most favorable circumstances : for if the quantity is sufficiently large, it would unquestionably be worth while to form large filter beds in the reservoir of drainage water from towns ; not as has often been proposed, merely for the purpose of purifying it from all the solid matter mechanically suspended in it, but also to arrest the ammonia and other valuable soluble elements of manure which it contains. Some of Mr. Way's experiments on this subject are very curious. He not only found that by filtering a portion of putrid drainage water through a few inches of soil, it had lost all bad odor, and contained no longer any ammonia ; but he also found that on filtering fresh liquids of this sort, which had not yet begun to putrefy, through such a layer of soil, they even lost all tendency to putrefy, and might then be kept weeks exposed to the air without their showing any indication of putrefaction. Although the chief agent in producing these remarkable effects is clay, yet it is evident that such filtering beds, if worth making at all, could not be made of clay alone, because, from its close tenacious nature, and the extreme slowness with which it allows the percolation of water, it would be evidently unfit for any kind of filter ; and a mixture of clay and sand, such as we find in a good mod-

erately stiff soil, would no doubt be far better. Mr. Way's experiments prove that the soil has a power of absorbing potash, soda, magnesia, and phosphoric acid, as well as ammonia; and if we add to these one more substance, namely, lime, we have most of the chief elements of manure.

As we said a fortnight since, when adverting to these very curious and important experiments, the subject is not yet half investigated, and there appears to be many chemical points not satisfactorily explained; some of these, as we then suggested, probably depend on mechanical rather than on chemical causes. Pure white clay, which had been boiled for two hours in strong muriatic acid, and which therefore evidently did not contain any free carbonate of lime, was nevertheless found to decompose a solution of muriate of ammonia which was filtered through it; a portion of the ammonia was absorbed, while the acid passed through in combination with lime; though, as may be supposed, far less ammonia was absorbed than when a clay containing free carbonate of lime was used as the filter. From this result we learn that such clay, which always contains a small quantity of lime, though it does not give up that lime to the action of a strong chemical solvent (such as boiling muriatic acid,) nevertheless does part with it readily under the influence of the much weaker solvent powers of a solution of muriate of ammonia. Another, and an equally surprising result, was obtained on endeavoring to ascertain whether a given soil would absorb the same relative proportion of ammonia from solutions containing different salts of that substance. An equal weight of soil was employed in each case, and it was found that when a weak solution of pure caustic ammonia was used, and there was therefore no chemical affinity to be neutralized or overcome, every thousand grains of the soil took up about a grain and a half of ammonia; on the other hand, when a solution of muriate of ammonia was used, in which case the salts had to be decomposed by lime under the influence of the soil, then nearly one-third more, or two grains of ammonia, was absorbed by every thousand grains of the soil.

We have mentioned the influence of mere mechanical conditions in modifying, or even for the time setting aside, the ordinary laws of chemical action: as we quoted as an illustration, the action of sulphate of ammonia on chalk. Another and a very curious example of the same sort of effect is shown in the mutual action of common salt and chalk. It is a well-known fact that a solution of common salt has no chemical action on chalk: indeed, when solutions of nitrate of lime and carbonate of soda are mixed together, the salts are both decomposed, a mixture of common salt and chalk is the result, and, however long these two substances are left together, no further change takes place. If, however, a quantity of sand is added, and the mixture exposed to the air, but protected from the rain, it will be found in a short time that the two substances react on each other, and give rise to the reproduction of those very substances, by the mutual action of which they have themselves been formed. A dry mixture of salt and chalk remains wholly unchanged, and so also does one which is thoroughly wetted; but if it is divided by the addition of soil or sand, and kept moist, both substances are partially decomposed, and the decomposition which then takes place is directly opposed to the ordinary known laws of chemical combination. It is plain, then, that the action of salt on any soil must, in great part, depend upon the mechanical condition of the latter; and whether the circumstances are such as to favor the decomposition of the salt, and the consequent formation of carbonate of soda. A little more or less rain may make all the difference, by preventing or assisting in the decomposition of the salt. This fact, which has been known some time, derives additional weight from Mr. Way's experiments.

Our soil being mostly a retentive clay we have been enabled to perceive perhaps more readily, the effects of repeated applications of guano; for we have found a vast difference in favor of this manure over stable dung, costing twice the amount of the guano.

As there can be no doubt of its efficacy, the only information necessary is when to apply it. In our climate some judgment is needed in doing this. Subject as it is to severe droughts, it is all important to guard against this, that guano should be applied early in the season, in April or May, when the ground is dug, turning it under the soil. If from any cause it is not applied then, select a time when there is every indication of a rain, slightly disturbing the surface, that it may be buried beyond the action of heat and dryness. It has been the late applications of guano, succeeded by a long drought, which have in many instances induced cultivators to hesitate about its continued use. We have seen bad effects from such applications, and now guard against them as much as possible in the manner we have described. On very light soils it is all important it should be spread upon the ground in April, so as to be thoroughly dissolved by the early rains of April or May.

The power of soils to decompose and adapt to the use of plants growing in them the substances applied, as in the case of salts of ammonia above noticed, is another instance of the necessity of practical experiments in arriving at definite results; and it shows conclusively that the compounds called "special manures," which are recommended for all purposes, like patent medicines, which cure all diseases, must act, if they act at all, in a very variable manner, according to the soil in which trees or plants are growing, to which they are applied. The mechanical conditions of soil and other subjects alluded to in the above extract, are of exceeding interest, and cannot fail to receive the attention of every cultivator.

Another thing, and important too, is to be sure and purchase the genuine *Peruvian* guano, and no other, unless *exceedingly cheap*. It is the only kind which has any value—arising from its great per centage of *ammonia*. Much that is called guano, being principally lime, although it may be recommended, is nearly worthless. Professor Way recently analyzed some of the *cheap* guano, and found it worth only £3 per ton, as compared with the *Peruvian*.

ART. II. *The Spring of 1852, in Illinois; with a List of the earliest Flowering Plants, and their Period of Blooming, from 1847 to 1851.* By E. S. L. RICHARDSON, Kendall, Ill.

THE following article, by Mr. Richardson, of Illinois, will be found highly interesting; and in comparison with the list of plants published in a previous volume, (VII, p. 201,) and furnished us by the late Wm. Oakes, will show the relative season of blooming in two remote sections of our country, Massachusetts and Illinois. We have already given some account of the severity of the past winter in Ohio and Kentucky, and it will be seen that it has been equally cold in Illinois:

This spring is quite backward with us; last Saturday, Sunday, and Monday, (3d, 4th, and 5th,) we had the worst storm that we have had for years, so late in the season. On the 3d we had snow and rain; and as much if not more snow than any other time during the winter; 4th, a violent rain, and 5th, rain and snow, with a very strong wind. Tuesday, 6th, was our annual town meeting, and two of us started on foot to go; about three or four miles off. It was too bad for horses, as the snow had drifted, and had a thin crust of ice just below the surface. We went to our brother's, about a mile, and gave it up, and came back. The snow was sometimes over our boots—and in one place up to our knees—and we would break through the ice in it nearly every step. It was then clear sunshine, and the snow melting fast. Next day we had snow and rain again. Yesterday, chiefly clear, the snow melting and running off in rivers. To-day is quite clear and fine—in places the ground is bare—in others are drifts of snow from one to two feet deep. (I have measured a drift since I began this, and found one near the house 22 inches deep, and think some in the yard may be a little deeper.) 5th instant, the rain froze on the trees as fast as it fell, till they were loaded with it, and young trees bent till they

touched the ground. The fruit-buds on peach trees were all killed over two months ago; and we fear that the buds on other trees are much damaged by the ice on them in the last storm. The ice was over half an inch thick, all over the trees. The last winter, as a whole, was very disagreeable. December 15 and 17, the thermometer stood at 10° below zero, and 29th it was 53° above, a range of 63° . (My record of December is imperfect; I have only 58 observations, instead of 93 observations, as a boy broke my thermometer 27th November, and I began with a new one, evening of 12th December.) In January, coldest, *only* 19° below zero, 19th; (as low as 24° below at Bristol, seven miles N. W. of us, on Fox river;) warmest, 28th, 46° above, a range of 65° . In February, coldest, 29th— 2° below zero; warmest, 24th— 55° above, a range of 57° . In March, coldest, 19th— 8° above; warmest, 25th, 68° above, a range of 60° . We had March weather in February—February weather in March. And this month is mostly like January. March 16 was fine in the morning, almost like a summer day; thermometer 63° , at noon—but P. M. it stormed, and rained, and at night the ground was covered with *ice*, and thermometer only 30° above, and it has hardly been so warm since. In the night of 29th we had a rain storm, with heavy thunder, and one continued flash of lightning—almost blinding—such as might be expected in July or August. Grass is not so green *now* as it was a month ago—then it seemed as though the spring had come; but since then we have stepped back into winter again. In this month, so far, the coldest was 6th, in the morning, 22° above—warmest, 6th and 7th, at noon, 50° above. To-day, 33° , morning, and 49° at noon. Some of the spring birds have come. Geese were here, 23d February; sandhill cranes, 6th March; ducks, 7th; meadow larks, 8th; robins, plover, and blackbirds, 9th; brant geese, 24th; long-billed curlew, 25th. (Geese are here, sometimes, all winter—if it is a mild winter.) Beside these, the following come early in the spring: *Swans*, blue birds, turkey buzzards, and wild pigeons, &c., &c. I have seen a pelican; it was shot within about 10 miles of us a few years ago.

ART. III. *Descriptions and Engravings of Select Varieties of Apples.* By the EDITOR.

WE continue our descriptions of apples from our last volume, (XVII, p. 20.) Owing to the rather limited apple crop of 1851, we were unable to procure specimens of several fine kinds, which we were desirous of figuring, and consequently were unable to continue our list in the last volume. We hope, however, with the great promise now of a fine crop, soon to figure and describe quite a number of new kinds.

XLVI. WALWORTH.

In our last volume we gave a brief account of the Walworth apple, (*fig. 18,*) specimens of which were sent to us in

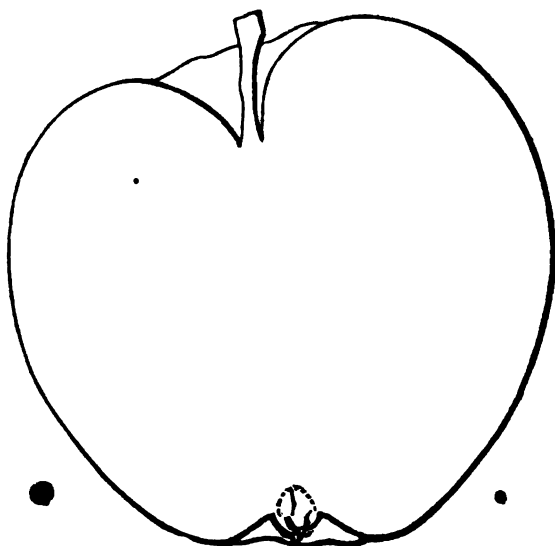


Fig. 18. Walworth.

1850 and 1851, by our correspondent, Mr. J. Batty, of Keeseville, N. Y. In 1850, we thought the specimens appeared identical with the Bailey Spice, but last year further speci-

more excellent as I was told. Indeed. As I never see a more excellent apple we have and a full description and an outline of the tree.

Mr. BARTON was well acquainted with this apple and as the following account of it—

"I send you a specimen of a variety which recently came to notice here, and which I propose to call the Wainth: the specimen is rather small and quite average, and I do not send it as a sample of the fruit but to draw attention to it, preparatory to a better appearance of a next season, when I will send good specimens if practicable. I consider it fully entitled to a place in a very select list. Enclosed are two outlines, accurately taken from specimens furnished me by Mr. Wainth, of Plattsburgh, in whose garden stand the only bearing trees of this variety I know of. It is not a seedling here, but was introduced from Rensselaer county, N. Y., where it was called the 'Large Golden Pippin.' It is reported to have been introduced from New Jersey."

The specimens received in the fall of 1851, several in number, and of fine size, enabled us to judge fully of its merits, and we consider it a fine addition to our October apples, being of good size, of beautiful appearance, and a very tender fleshed and excellent flavored variety.

Size, large, about two and three-quarters of an inch deep, and three broad: *Form*, roundish conical, very regular, full at the base, and narrowing off to the crown, which is small: *Stem*, rather short, about half an inch long, slender, and rather deeply inserted in a small, moderately deep cavity: *Skin*, fair, smooth, clear yellow, very beautifully suffused with bright red on the sunny side, and dotted with greenish russet specks: *Eye*, small, closed, and moderately sunk in a small, open, and furrowed basin; segments of the calyx broad, twisted: *Flesh*, yellowish white, fine, soft and tender: *Juice*, tolerably abundant, pleasantly subacid, and well flavored: *Core*, large, open: *Seeds*, medium size, plump. Ripe in October.

XLVII. DRAP D'OR. *Duhamel, Arb. Fruit.*

Vrai Drap d'Or, *Duhamel.*

Bay Apple, }
Bonne de Mai, } Acc. to Hort. Soc. C.t.

Goldzaugapfel, *Diel Kernobst.*

Drap d'Or of France, *Coxe's View, &c.*

The Drap d'Or (*fig. 19*) is not very generally cultivated, and does not have a high reputation among pomologists. But the specimens which we have seen have been remarkably fair and handsome, and have been uniformly good—so good, indeed, that the Massachusetts Horticultural Society

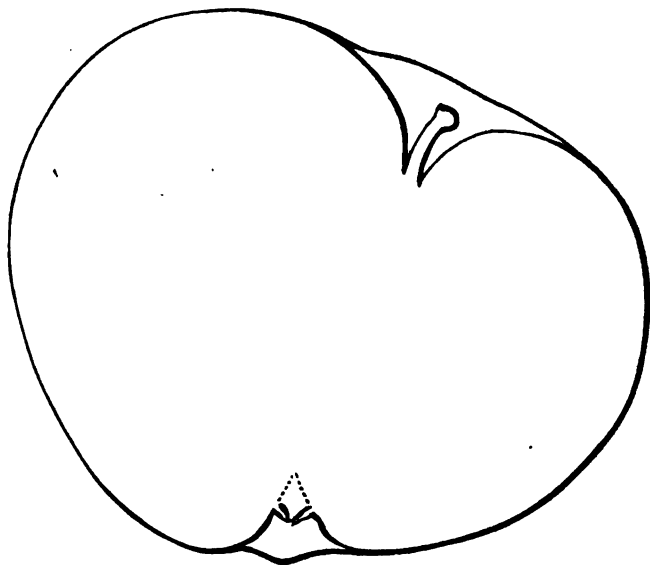


Fig. 19. Drap d'Or.

awarded this variety the second premium as an autumn apple, last year. Coxe describes and figures it, and pronounces it a "great bearer, and highly worthy of cultivation." It is certainly a fine looking fruit, having a rich, deep golden skin, blotched and freckled with dark russet.

Size, large, about three inches long, and three and a half in diameter: *Form*, roundish, flattened at the base, narrow-

ing to the crown, which is small: *Skin*, fair, smooth, clear lemon yellow, dotted with a few large russet specks: *Stem*, short, less than half an inch long, rather stout, and deeply set in a contracted cavity: *Eye*, medium size, closed, and moderately depressed in a small, finely furrowed basin; segments of the calyx short: *Flesh*, yellowish white, fine, crisp and tender: *Juice*, tolerably abundant, very pleasantly and well flavored: *Core*, large, very open: *Seeds*, medium size. Ripens in October, and keeps to January.

XLVIII. LEDGE SWEET.

Late in the spring of last year, and also of the present one, specimens of a most excellent sweet apple have been placed upon the tables of the Massachusetts Horticultural

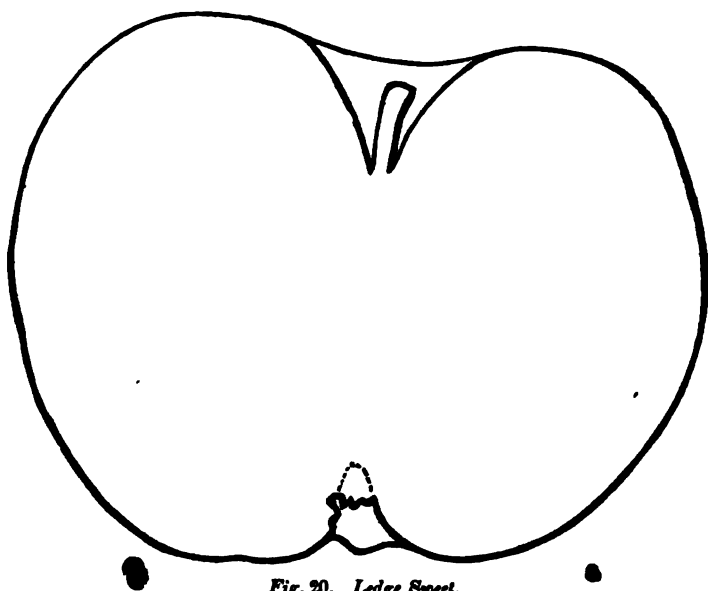


Fig. 20. Ledge Sweet.

Society, from Mrs. Haven, of Portsmouth, N. H. They were perfectly sound and fresh, as if just gathered from the tree. Proving for two seasons so fine, the Committee, at the request of Mrs. Haven, recently named it the Ledge Sweet. (Fig. 20.)

A sweet apple, of such excellent keeping qualities, is exceedingly valuable, particularly when from a northern region, and possessing a vigorous and hardy constitution. What the Lady Sweet and Broadwell may prove, under general cultivation, we are yet unable to say, but, with the exception of the latter, we know of no so desirable a late keeping sweet apple as the Ledge.

Of the habit and growth of the tree we know nothing, but we suspect it to be a regular bearer, as Mrs. Haven has sent specimens for exhibition two successive years.

Size, large, about two and a half inches long, and two and three-quarters in diameter: *Form*, roundish oblate, flattened at the base, narrowing to the eye, and slightly ribbed: *Skin*, fair, smooth, of a yellowish green, tinged with blush on the sunny side, and dotted with reddish russet specks, little russeted around the stem: *Stem*, short, less than half an inch long, moderately stout, and sunk in a broad, open, and rather deep cavity: *Eye*, medium size, partially closed, and but little depressed, in a small, shallow basin; segments of the calyx short: *Flesh*, yellowish white, fine, firm and crisp: *Juice*, abundant, rich, sweet, and high flavored: *Core*, medium size, rather open: *Seeds*, medium size, light brown. Ripe from January to June.

ART. IV. *The Treatment of Japan Lilies.* From Turner's *Florist*.

NOTWITHSTANDING we gave our own mode of management of this most splendid of all the lilies, in a previous volume, (XIV, p. 34,) we copy the following capital article from the *Florist*, formerly under the control of our correspondent, Mr. Beck, but now conducted by Mr. C. Turner. It is an article just to the point, and, in addition to what we have said, will give all the information necessary to grow these superb lilies.

We must remark, however, that we do not wholly agree with the writer in reference to his views of their culture in

the open air. We have had a large bed out, now the second year: and though we find that their flowers fade sooner than when grown in the greenhouse, still, they retain their beauty for a long time, and make a magnificent display the whole of September; probably our dryer atmosphere and clear sun prevent that disfiguring of the flowers, which the writer speaks of as almost fatal to their culture in the open air in England. Much as we admire these in the open ground, and as highly as we recommend them for out-door culture, we would not on any account give up their growth in pots for ornamenting the greenhouse, conservatory, or verandah, in summer. They bloom with proper treatment in July and August, and retain their beauty so long, that they are, in truth, the most attractive objects at that season:

The different varieties of *Lilium lancifolium* are, in my opinion, some of the most beautiful objects that are within the reach of cultivators of moderate means; and it is a matter of difficulty with me to account for their comparative neglect by many admirers of Flora's less beautiful and more expensive productions, save by supposing that they are but little known in our rural districts. The following remarks, therefore, may possibly be the means of inducing those who have hitherto neglected these beautiful plants to bestow upon them the attention which they merit.

The Japan Lilies are recommended by many for out-door culture, and are said to be perfectly hardy. The truth of the latter statement I am not inclined to question; but the results of my experiments with *Rubrum* and *Album* in the open border have not been much to my mind; and, from what I have observed elsewhere, I am inclined to think that, except in a few favored localities, these varieties will never be popular border-flowers in England. I have seen them in the most favorable soil and situation in some of the midland counties, and then they have been showing flower towards the middle or end of September, a season in which the blooms were no sooner expanded than they were disfigured by the effects of our damp atmosphere at that period. I

would fain hope, however, that I am mistaken, and that those who state that these lilies are suitable for open-border cultivation are right. The experience of your correspondents in this matter would, I am sure, form a useful page in a future number of *The Florist*, and I invite attention to the subject. I would, however, take the liberty of stating, that we have already a sufficient number of periodicals open to articles savoring of controversy, and that the conductors of *The Florist* are right in determining that it shall continue the vehicle of well-authenticated facts and mature experience. I would on that account invite only such persons to reply as have tried Album and Rubrum for at least two seasons in the open border; and then the locality in which they succeeded or failed should be mentioned. I am aware that many flower Rubrum in perfection out of doors, and so do I; but then the plants were in pots, and were artificially forwarded before they were placed in the open border, and without this assistance I have never found it to do any good. Our damp atmosphere, moreover, too soon disfigures it with black spots, and the flowers are but short lived, which I have also found to be the case with Album.

While I cannot agree with many, however, in recommending these lilies as border-flowers, I am of opinion that they deserve the most extensive cultivation as pot-plants. For the conservatory or greenhouse they are decidedly the most splendid of autumn flowers. Those who intend to procure bulbs of the different varieties should do so when they are dormant, for they then suffer least from the accidents common to travelling. If the bulbs are received in the pots in which they have made their season's growth, shake the soil from their roots, and repot them in fresh material, giving a gentle watering to settle the soil, and place them in a cool frame or greenhouse, where they may remain without further attention until the beginning of March, by which time they will be showing signs of activity, and may be moderately supplied with water. I generally find the pots to be well filled with roots towards the latter end of April; and, when such is the case, I carefully shift them into a pot which I

consider to be sufficiently large for their season's growth. This, however, must be regulated according to the age and strength of the bulbs. For offsets of the first year I use 5-inch pots; for those of two years 9-inch pots; and for full-grown bulbs, which they will be the third season, 12-inch pots. After they receive their final shift they are returned to their former quarters, allowed abundance of air, and are carefully supplied with water, for they very readily suffer from an excess of this element. They will enjoy an evening sprinkling with the syringe after bright days, but they will thrive without it. As the season advances, they will be improved by a little manure-water. If they are not injured by over-watering, or the want of air, they will not be likely to suffer from any other cause; should the green-fly, however, make its appearance, fumigate at once with tobacco-smoke. As the stems advance give them the support of a stake. The plants I wish to flower in August I retain in the greenhouse; such as I want for a later period I remove to a sheltered place out of doors; and by a little management in this way I secure a succession of bloom for at least two months. After the plants have flowered, I gradually withhold water, in order to thoroughly ripen the bulbs; and if they can be placed in a vinery from which the crop has been cut, they will profit by the means usually employed to ripen the wood of the vines. A dry, moderately warm atmosphere then proves highly beneficial to them.

When I am satisfied that the bulbs are thoroughly matured, which is known by the decay of the leaves and flower-stems, I turn them out of their pots, shake the soil from their roots, and replace them in smaller pots. For full-grown bulbs I use 8-inch pots; but this I leave to the judgment of the cultivator. When potted, treat them as recommended above. I had almost forgotten to state that the bulbs ought to be covered some three or four inches with soil; this is of importance, for they throw out strong roots just above the crown of the bulb, and frequently produce a couple of small bulbs from the same part of the stem. A strong bulb of *Rubrum* produced with me last autumn somewhere about

thirty flowers. From having been allowed to become what gardeners term *pot-bound* previous to the final shift, it had only protruded a few roots from the base of the bulb through the fresh soil; it had depended for its support principally on the roots above the crown, these having never received any check, as I always cover the bulb at the final shift. This, then, would teach us to shift before the roots became matted to the side of the pot, and to pot deeply; but I prefer doing this at the second shift, for I imagine that I can better judge about the proper time to start them into growth when the crown of the bulb is visible above the soil.

As regards propagation,—like other bulbous plants, they are increased by means of offsets, which should be removed when the plants are repotted in autumn, except such as are small, which will be better left to grow alongside of their parents for another year: they may also be propagated by seed, as is shown by the beautiful seedling varieties raised by Mr. Groom. To secure seed, the plants must be induced to flower early in August; the blossoms should be fertilized, and carefully guarded from damp; when ripe, sow the seed thinly on the surface of a shallow pot, well drained, and filled with peaty soil, slightly covering with the same: they should remain in this condition, without water, until early in February. Their farther treatment need not be different from that recommended for the plants.

I ought to state that *Punctatum* is of an earlier habit than any of the others. It must, however, be encouraged to proceed in its natural way, for I have found it somewhat impatient of control. A frame which is kept rather close, or the warm end of a greenhouse, will be suitable for it; and it will be useful in the conservatory or greenhouse at an earlier period than the other varieties. These beautiful plants succeed in any light, moderately rich soil. I use two parts turfy loam and one peat, or leaf-soil, with the addition of sand according to the texture of the loam.

Should any one who has neither greenhouse nor conservatory entertain a fancy for these lilies, I would state for their encouragement, that I have seen them grown in the

highest perfection with the aid of a small frame and the after protection of a verandah ; here they were effectually sheltered from wet, and shaded from the direct rays of the sun. Under such conditions, the flowers remained for an unusually long period in perfection ; and it would not be easy to imagine anything more strikingly beautiful in such a situation than a few well-grown plants of *lilium lancifolium roseum*, *punctatum*, *album*, and *rubrum*. If very large specimens are desired, try five or seven full-grown bulbs of *Rubrum*, or of any of the other varieties, in an 18-inch pot, and I venture to promise that you will have such a picture of floral beauty as you never previously possessed. **

ART. V. *Descriptions of Ten New Verbenas.*

By the EDITOR.

IN our last volume we described the principal new verbenas of merit which had been introduced or flowered in our collections ; they were mostly of French origin, the Parisian cultivators having made greater improvements in this most beautiful flower than the English florists. Other new varieties, of both French and English origin, have been added this year, but they have not yet flowered so as to give any account of their merits ; the principal of these we have already named, (p. 175.) Consequently the only new ones we have now to notice are our own seedlings, which flowered late in summer, and which, after having bloomed again, we now are enabled fully to describe.

It is no easy task now to produce seedling verbenas of superior merit ; since it has taken a rank as a "florists' flower," its combined properties are taken into estimation, and a variety which formerly might be attractive on account of its color alone, will now possess little merit. A good habit ; a free bloomer ; strong flower stems ; large and well formed trusses ; large flowers, of fine circular outline, and clear or novel colors ; are some of the points which constitute a fine variety ; and in the effort to get all of them, but few succeed.

An English writer, in speaking of the production of new verbenas, truly remarks, that "in striving to get a perfectly round flower, with compact truss, the required free blooming habit is abandoned, merely to force nature to assume rotundity, if we may express what Mr. Glennly has been so long laboring to lay down as the perfection of beauty. It is a curious fact that the better habit the flower, the less rotundity of petals is there, and, *vice versa*, the rounder the flower, the more vicious the habit." To sum up, he says, "though verbenas may have progressed as regards form, it is to be feared no advance has been made in color."

We have found this to be the case in our own experience. Many of the kinds with large and good formed flowers, were evidently meagre and poor in habit. We have no fears, however, but that continued trial will bring with it a due reward; in our own case, nothing could be nearer to it than the *America*. It possesses all the properties laid down by Mr. Glennly.

We regret to see that our amateurs do not raise greater quantities of seedlings; want of success in one or two trials should not dampen the ardor of any true lover of this most beautiful plant. Our climate is far better for producing seeds than that of our English friends, and there is no reason why our American seedlings should not take the lead of all others.

1. *AMERICA, (Hovey's.)* Flowers very large, clear white, with a small straw-colored eye; petals large, nearly flat, slightly cupped at the edge, broad, of good substance, and forming almost a perfect circular outline; umbels very large, nearly three and a half inches in diameter, beautifully formed, compact, without being crowded, and containing, when well grown, between *forty* and *fifty* flowers; habit vigorous, similar to *Defiance*, but a little larger foliage, and of the finest habit, either for cultivation in pots or bedding out; the flower stems are stout, long, and erect, elevating the trusses far above the foliage. It is one of the most profuse bloomers, and a small bed appears one mass of snowy flowers. We believe it to be unsurpassed among all the white verbenas that have yet been raised.

2. **DIADEN**, (*Hovey's.*) Flowers large, rich dark purple, with a fine velvety surface, and a purple eye; petals large, smooth, flat, of good breadth and fine substance; umbels large, moderately compact, and handsomely formed; habit moderately vigorous, long jointed, with the trusses borne on long, erect flower stems; foliage rather narrow. A most superb dark variety.

3. **FORGET-ME-NOT**, (*Hovey's.*) Flowers medium size, bluish white, with a beautiful carmine shade around the eye; petals large, flat, broad, and of fine substance; umbels large, of the finest form, moderately compact; habit rather vigorous, with a somewhat rounded, light green, slightly crumpled foliage, and with strong flower stems, holding up the umbels above the foliage. It is somewhat in the way of Wonderful, but much superior to that variety.

4. **ORB OF DAY**, (*Hovey's.*) Flowers large, dark rich scarlet, with a red eye; petals large, somewhat wavy, but of fine substance; umbels very large, compact, and of fine form; habit vigorous, and so short jointed as to form a dense carpet of green. As a bedding variety it is one of the most brilliant yet raised.

5. **NECTAR CUP**, (*Hovey's.*) Flowers large, novel rose color, with light centre and dark eye; petals medium size, cupped; umbels very large and well formed; habit vigorous, with strong flower stems; foliage long, narrow, thickly and finely nerved, of a dark green. The peculiar merit of this variety is its delicious odor, being one of the most fragrant varieties ever raised.

6. **MAY MORN**, (*Hovey's.*) Flowers very large, clear brilliant rose color, and light eye; petals large, broad, of great substance, well formed, and slightly cupped; umbels very large, and of excellent shape; habit vigorous, branching with strong flower stems; foliage good.

7. **REPUBLIC**, (*Hovey's.*) Flowers large, pale rose, finely striped and splashed with crimson and cherry; petals large, flat, of good substance, and fine form; umbels large, compact, and of excellent shape; habit vigorous, similar to Defiance; foliage medium size. It is one of the most free bloomers in cultivation.

8. **SNOW BALL**, (*Hovey's.*) Flowers large, white, with a greenish eye; petals large, good shape, and of remarkable substance, having a waxy appearance; umbels large, rather loose, well shaped; habit vigorous, with long erect flower stems; foliage slightly pubescent. Next to America this is one of the best whites.

9. **NORTH STAR**, (*Hovey's.*) Flowers large, dark purple, with purple eye; petals good size, flat; umbels good size and well formed; habit vigorous, somewhat erect growing, with good foliage. This is similar to *Diadem*, but has not the rich velvety petal of that variety.

10. **DEFIANCE SUPERB**, (*Dooge's.*) Flowers large, light scarlet, and light eye; petals good size, slightly wavy; umbels good size and well formed; habit similar to *Defiance*, which it resembles in everything but color, being two or three shades lighter, inclining to an orange color.

ART. VI. *Floricultural and Botanical Notices of New and Beautiful Plants, figured in Foreign Periodicals; with descriptions of those introduced to, or originated in, American Collections.*

NEW FUCHSIAS.—Some new and beautiful fuchsias have been introduced the present year. The following are their names and descriptions:—

Madame Sontag.—Tube short, waxy white; sepals waxy white, much reflexed, fully exposing the corolla, which is a rosy crimson with a white bottom.

Igneæ.—Tube and sepals a bright red, and corolla a violet purple. Flower two and a half inches long, and shows the corolla well.

Prince Arthur.—Tube rather short, pure white; sepals pure waxy white, much reflexed, fully exposing the corolla, which is a brilliant crimson, the finest of this class.

Psyche.—Tube and sepals of snowy whiteness, with bright rosy scarlet corolla, elegantly displayed.

Sir John Falstaff.—Tube and sepals of a rich crimson ; corolla dark plum color. This is of the globosa class, and is one of the finest yet raised.

Diadem of Flora.—Tube an inch and a half long, white ; sepals flesh color, with green tip. Corolla rosy crimson, which is well shown, as the sepals reflex back, and is three and a half inches across.

SCARLET GERANIUMS —Many new and splendid varieties of this class have been produced, of various shades of color, from white to the most brilliant scarlet. Some of these we have already named, and we now add descriptions of such as have been added to our collections.

Cerise Unique.—Foliage with a light green centre, with a horse-shoe mark, edged off with green. The flowers are large, fine form, of a rich cherry and scarlet color. Of medium growth, and blooms freely on a small plant.

Commander in Chief.—Foliage green, with a very pretty horse-shoe mark, of velvet and yellowish red. Flowers of a rich orange scarlet, good form, and produced in *large* heads. An excellent variety, either for bedding or in pots, and very handsome in any situation. The young stems, as well as flower stalks, are of a yellow cream color, almost *pure transparent*, and have a pretty appearance.

Princess Royal.—A neat dwarf growing variety, blooming very freely. The leaves are of a deep green, with a distinct black horse-shoe mark. The flowers are of a deep crimson scarlet. Remarkably neat ; a pretty variety, for beds or pots.

Flower of the Day.—Foliage green, broadly edged with white ; a free bloomer ; flower of good size and form, of a salmon scarlet color ; does very well in a small bed. The plants should be of good size before turning out, and then they do not run into too much foliage, but flower much more freely from the old wood. A striking variety.

Queen of Summer.—A free blooming, dwarf variety, with variegated stems and transparent leaves. Flowers, dark scarlet, well elevated above the foliage. A fine bedding variety.

Cottage Maid.—Foliage green, with dark shaded horse-shoe mark. Flowers bright scarlet.

Other fine sorts are Dazzle, Mr. Mero, Hydrangæflora, Tom Thumb's general, &c.

SPIRÆA PRUNIFOLIA *PLE'NO* and *WEIGELIA ROSEA* have both proved perfectly hardy—as hardy as an oak, to use a common phrase—not a single twig killed; and the former is now covered with long wreaths of its tiny, pure white double flowers; it is one of the finest of all the spiræas. Its hardness, early flowering, and great beauty, must render it indispensable in every flower garden. The *Weigelia* does not flower till June.

DICENTRA (DIELYTRA) SPECTABILIS has proved perfectly hardy the past severe winter. In the garden of J. Jackson, Esq., of Boston, a large strong plant is now coming into bloom. It is one of the finest hardy herbaceous plants recently introduced; and is also a most beautiful object for pot cultivation, flowering freely with the most ordinary treatment. With the aid of a frame, or in a cool greenhouse, it may be had in full bloom in March and April. It is still rare, but it should be found in every good collection.

FANCY PELARGONIUMS.—This class of *Pelargoniums* is rapidly gaining favor. In the production of new kinds, regard is now had to form as well as color, and many of them are exceedingly brilliant, and varied in their tints. As we have been delighted with the appearance of our plants, we annex brief descriptions of a few of the best which have been introduced:—

Jenny Lind.—Ground color white, upper petals beautiful carmine, with white margin; lower petals spotted with bright cherry. Fine in form and robust in habit. Very free bloomer.

Hero of Surrey.—Upper petals nearly black, and belted with white; lower petals white, with a crimson spot in each. A free bloomer, and good habit.

Empress.—Upper petals white ground, with very delicate spot of pale rose; lower petals white. Free bloomer, and very delicate.

Belle d'Africa.—Dark ground, clouded with purplish maroon. Very dark and distinct.

Belle d'Epinay.—Upper petals nearly black, with white belt; lower petals white, with a large crimson spot in each. Very brilliant, and fine in habit.

Perfection.—Similar to Jenny Lind, but of a different habit. A free bloomer.

174. *PHYTNUM SANGUINEUM* Hook. SANGUINEOUS PHYTNUM. (Cannaceæ.)?

A stove plant; growing two feet high; with blood colored flowers; appearing in spring; increased by division of the root; cultivated in loam and leaf mould. Bot. Rec. 1852, pl. 655.

A very showy stove plant, of the habit of the Cannas or Indian shot, to which natural family it belongs. The sheaths of the petioles, as well as the under side of the leaves, are of a deep red, which gives the plant an ornamental appearance when not in flower; "but the inflorescence adds greatly to the beauty, the upper part of the long peduncle, the copious bracts, and the flowers and pedicels, and rachis, being alike of a rather light red color." (*Bot. Mag.*, May.)

175. *RHODODENDRON CILIATUM*, var. *ROSEO A'LEUM* Hook. ROSE WHITE-FRINGED RHODODENDRON. (Ericaceæ.) Sikkimhimalaya.

A half hardy shrub; growing four feet high; with rose and white flowers; appearing in spring; increased by layers and grafting. Bot. Mag. 1852, pl. 4648.

This is one of the new Sikkim Rhododendrons, raised from seeds, at Kew, less than two years ago. Six plants of it have produced flowers while only seven inches high, and others are showing blossoms. "Their flowering," Dr. Hooker remarks, "has given us peculiar pleasure, as the first of the Sikkim Rhododendrons which have done so." It is a beautiful plant, having very large flowers, of a delicate white, tinged with red rose color. The leaves, stamens, and indeed the entire plant is clothed with long ferruginous hairs. This variety comes from an elevation of 9—10,000 feet, and has proved quite hardy in England the past winter. It will undoubtedly winter in a frame in our climate. Its dwarf stature, and free blooming habit, will render it a favorite plant. (*Bot. Mag.*, May.)

176. *JASMINUM NUDIFLORUM* Lindl. **NAKED-FLOWERED JESAMINE.** (Jasminæ.) China.

A half hardy or hardy shrub ; growing three feet high ; with yellow flowers ; appearing in spring ; grown in any good soil ; increased by cuttings and layers. *Bot. Mag.*, 1852, pl. 4649.

This has hitherto been kept as a greenhouse plant in our collection ; but from its habit of growth, and from the fact that it has proved perfectly hardy in England, we suspect it will be found as hardy as the *Weigelia*, which was found by Mr. Fortune in the same locality, (North of China.) It is a beautiful thing. "It is deciduous ; the leaves falling off, in its native country, early in autumn, and leaving a number of prominent buds, which expand in early spring, often when the snow is on the ground, and look like little primroses." It will be a pretty companion to the *Forsythia*, *Weigelia* and *Spiræa prunifolia pleno*. (*Bot. Mag.*, May.)

177. *NYMPHÆA GIGANTEA* Hook. **GIGANTIC WATER LILY.** (Nymphacææ.) Australia.

An aquatic ; with purplish blue flowers ; appearing in summer ; increased by seeds. *Bot. Mag.* 1852, pl. 4647.

This is a new water lily, of nearly the gigantic dimensions of the *Victoria regia*, being *a foot in diameter*, "and if not of a purplish blue color, yet blue—the blue, as it would appear in *Nymphæa cærulea*. Seeds of it were sent to England, under the name of *Victoria Fitzroyana*, having been gathered in Northern Australia, but it has not yet flowered out of its native locality, the drawings now before us having been made from the botanical specimens sent to Dr. Hooker by Mr. Bidwell, the collector, which, he says, "are so beautifully dried by our valued friend and correspondent, that we think we cannot err on that point. If the seeds should fail to vegetate, or prove to be those of another kind, our *Nymphæa gigantea* will ere long find its way into our tropical tanks, and adorn them with a water lily, little inferior to the royal *Victoria* in the size and beauty of the flowers, and with leaves equally remarkable in size for a true *Nymphæa*, being eighteen inches to two feet across." (*Bot. Mag.*, May.)

SELECTION OF ANNUALS ADAPTED FOR BEDDING, &c.—In our last number we gave a list of annuals best adapted to the purposes of bedding: the following is a continuation of the same, and will be found a valuable aid to those who are unacquainted with the habit, height, color, &c., of the numerous kinds described:—

(Continued from page 220.)

Sanvitalia procumbens.—A neat compact growing plant, rising from 4 to 6 inches high, with small, oval, dark-green leaves, and numerous orange-rayed Rudbeckia-like flowers (three-fourths of an inch wide,) richly diversified with a black centre.

Eucharidium concinnum.—An erect Ceanothus-like plant, 9 to 12 inches high, of neat habit, with small, dark-green leaves, and laden with deeply-lobed, bright rosy colored Clarkia-like flowers.

Cynoglossum linifolium.—A remarkably compact plant, of erect dense growth, with grey or glaucous-white leaves, and studded towards the upper part with a profusion of snow-white circular, ribbed, salver-shaped blossoms.

Iberis umbellata rubra (crimson Candytuft).—An erect growing variety, 12 inches high, with narrow lance-shaped leaves, and numerous terminal flat-tish umbels of rich, reddish purple and crimson flowers.

Iberis coronaria and *I. umbellata alba* (white Candytuft).—Rising 12 inches high, equally neat and compact in habit, with similar foliage, and profuse terminal branching stems, forming a dense mass of snow-white flower heads.

Lupinus nanus.—An extremely pretty species, with small hand-shaped leaves, and numerous long terminal erect spikes of elegant blue and white pea-shaped flowers.

Silene rubella.—A neat plant, 12 inches high, with broadly ovate glossy leaves, and numerous terminal clusters of loose purplish rose-colored blossoms.

Eutoca Wrangeliana.—A low-growing species with decumbent stems, rising *en masse*, 6 to 9 inches high, and crowned with a profusion of blueish salver-shaped flowers in clusters.

Hibiscus Africanus.—An upright, branching plant, growing from 9 to 18 inches high, with deeply-lobed or divided leaves, and remarkably large, close-petalled, bright, sulphur-colored Hollyhock-like flowers (4 to 6 inches wide,) beautifully ornamented with a rich and conspicuous dark velvet band towards the centre.

Yellow Hawkweed.—A somewhat loose growing and slender branched plant, 12 to 16 inches high, ornamented with a profusion of very neat pale yellow, or brimstone-colored Marigold-like blossoms, about 1½ inch wide, which are singularly diversified with a double interior row of smaller orange-yellow petals, the whole being relieved by the contrasted effect of a large and remarkably beautiful rich dark-brown centre.

Heliphila araboides.—A prostrate spreading plant, with diverging shoots or stems, which are elegantly studded over with numerous close-petalled rich blue, compact salver-shaped blossoms, half an inch wide.

Godetia bifrons.—An ornamental, erect-growing plant, of neat habit, 18 inches to 2 feet high, with medium-sized leaves, and terminal racemes of large conspicuous rosy lilac, cup or salver-shaped flowers (2 inches wide,) picturesquely marked with bright rosy crimson cloud-like spots in the centre of the flower lobes or petals.

Sweet Sultan.—An upright growing plant, 18 inches to 2 feet high, producing many conspicuously-ornamental, large, clear white, Thistle-like flowers.

Godetia rubicunda.—An ornamental species, 18 inches to 2 feet high, of neat, erect, branching habit, with medium sized leaves, and long terminal spikes of numerous, large, close-petalled, light-pink, cup-shaped or salver-like blossoms, deepening into a conspicuous light crimson centre.

Malope grandiflora.—A highly ornamental annual, 2 to 3 feet high, with obtusely-lobed mallow-like leaves, and numerous, remarkably large, and beautiful rich crimson salver-shaped flowers, 4 to 6 inches wide.

Godetia Lindleyana.—A late summer-flowering annual, 18 inches to 2 feet high, of neat habit, upright growth, medium-sized foliage, and highly picturesque and beautiful pale rosy-lilac, open cup-shaped blossoms, bending into a crimson centre.

Branching Larkspur.—An ornamental late summer flowering annual, 2 to 3 feet high, of erect branching habit, with numerous racemes of variously shaded brilliant blue-colored blossoms. Admirably adapted for grouping in shrubberies and plantations.

Lupinus Cruckshankii.—An extremely beautiful late summer and autumn-flowering species, 2 to 3 feet high, of neat erect branching growth, with smooth finger-lobed leaves and terminal spikes or racemes of richly blended blue, white and yellow, Pea-shaped flowers.

Tangier Pea (Lathyrus tingitanus).—A very elegant twining annual plant, 3 to 4 feet high, with medium-sized foliage, and numerous clusters of remarkably rich violet-crimson blossoms.

Chrysanthemum centrospermum.—A late summer and autumn-flowering species, 2½ to 3½ feet high, of erect, branching habit, deeply toothed or lobed leaves, and numerous golden-yellow Marigold-like blossoms, well adapted for effect in large borders.

Helichrysum bracteatum.—A neat, erect, branching, late flowering plant, 2 to 3 feet high, with dark green willow-shaped leaves, and numerous terminal, conspicuous clusters of golden yellow "everlasting flowers."

Helichrysum macranthum.—Similar in habit to the preceding species, with green willow-shaped leaves, and terminal upper clusters of clear white "everlasting flowers," elegantly suffused with rose or pink. This interesting plant, as well as the preceding, withstands the influence of autumnal frosts.—(Gard. Chron., 1852, p. 229.)

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

THE PANSY.—We stated on a recent occasion, that in addition to the improvements effected in general gardening through the agency of the Horticultural Society, much had also been done by it for the advancement of floriculture. This is, perhaps, best exemplified by the magnificent collections of Roses in pots which annually grace its May and June exhibitions. In common with most new projects, when this was first announced it was met at the very threshold with much determined opposition. Some even went so far as to say that the thing could not possibly succeed; nevertheless, the result has been all that could be desired. The same institution required Pansies, Pinks, Carnations, and Picotees in pots, and this innovation again called forth similar predictions of failure. Those, however, who preferred deeds to empty speculation, set heartily about trying the experiment, and with what success last season's exhibitions at Chiswick bore favorable witness. But it is our wish on the present occasion to direct attention exclusively to the Pansy, and more particularly to its cultivation in pots; not more with a view to the purposes of exhibition than for early spring decoration. This was suggested by the charmingly bloomed examples in pots of this flower exhibited by Mr. Turner at the last meeting of the Horticultural Society in Regent-street. They consisted of Duke of Norfolk, Sir Philip Sidney, Disraeli, Ophir (very fine), Robert Burns, and Euphemia. This exhibition proved a source of much interest to all who were present, whether florists or not; while a pan of cut blooms, although of equally fine varieties, arrested but limited attention. Those who have never cultivated the Pansy in this way have little idea what a profusion of really gay flowers is produced by this plant during the whole of the early spring months, and that within the narrow limits of a common three-light wooden frame. A box of the size just mentioned will hold about 70 plants in 6-inch pots, which size is large enough when not required for the purposes of exhibition; and they may nearly all consist of different varieties, or two plants of some kinds that are especial favorites may be allowed, according to the taste of the cultivator, and which we should recommend; for there is much in the choice of a plant, as we shall hereafter show. Proper plants for the purpose will often have a considerable number of blooms open by the middle of February, and even Iron Duke, Supreme, Duke of Norfolk, Elegant, Euphemia, Sir J. Franklin, Leader, Constantine, and Caroline, will have fair blooms in the middle of January. With proper attention, these same plants will flower in good character till the latter part of May; but we will date the commencement of a good head of bloom, as a general rule, from the first of March to the first of June; thus, for very little attention, giving a succession of good flowers for three months, without the expense of heat, linings, or coverings. We may, then, well ask what other plant will make the same display and the same return for so little trouble. Mr. Turner, who is perhaps the most successful grower of the

Pansy we have, says: "Plants for early flowering should be potted up from the open ground in October. Although a hardy plant that will grow and bloom almost anywhere, yet, like everything else, to produce fine flowers they must not be permitted to take care of themselves. If the weather is open the last week in January, or the first week in February, begin to repot the plants generally, using soil similar to that in which they have been wintered, i. e. good decomposed turfy loam, rotten manure, a little leaf-mould, and coarse sand, the latter in proportion to the nature of the loam. When potting, loosen the outside of the old ball, and remove a portion of the top soil; drain as you would for Carnations; after covering the bottom of the pot with crocks, place some of the coarsest soil mixed with a little manure over the drainage, and shake all down by striking the pot on the bench. The soil should not be pressed hard with the hand; no water should be given for a day or two after potting. Before as well as after this operation, the plants must be kept well up to the glass. The plants we have been describing should have from two to six shoots, or strong leaders; and to keep them to these chosen shoots, a number of small ones must from time to time be removed. These cuttings answer the double purpose of strengthening the main shoots, and producing a stock of young plants, which will supply the place of the old ones when worn out. Plant out any increase as soon as it is rooted, and from these again continue to propagate by putting in any side-shoots as cuttings, when they are sufficiently long for that purpose. Propagating the Pansy is a simple and inexpensive operation; almost any beds or borders will answer for planting out the young stock. We recommend that, from first to last, a considerable number should be raised from cuttings, or small pieces taken from the parent plant, with roots attached, in order that there may be a good selection for the purpose of pot-culture. In this lies the secret of successful cultivation; without a choice of plants no good will be effected." Having pointed out what should be aimed at to ensure success, it will not be out of place to allude to what, in many instances, causes failure. The time for taking cuttings is, in many cases, too long delayed; if the old plant does not go off altogether, the cuttings become sickly and pippy; therefore never be without a young stock. Strong growers, with large flowers, are best adapted for pots. Keep the frames open whenever the weather is favorable, pulling the lights back, or tilting them up; maintain the plants in a growing state by watering them as often as they require it, going over them for this purpose every day. Plants that have several shoots should be tied into shape, placing the centre-branch upright in the middle, and the remainder at equal distances all round; but the plant must be shaped according to the number of shoots; three leading branches are sufficient if cut blooms only are required. Another advantage is, that the same plants, from the succession of bloom they produce, will answer the double purpose of exhibiting in pots or stands of cut flowers. After the potting as above recommended has taken place, take the earliest opportunity at which the ground is in a fit state, to plant out any stock not required to bloom under glass, or plants that have been wintered in stores, &c., which will bloom through May or June, and pro-

duce a stock of good healthy cuttings. By following the simple and inexpensive treatment which we have just recommended, we are sure that those who take the little trouble that it entails will not fail to be gratified by a fine display of bloom, which, from its long continuance, will most certainly afford much gratification.—(*Gard. Chron.*, 1852, p. 247.)

CHICORY AS A WINTER SALAD.—The leaves of this plant make a famous salad, and their value for this purpose cannot be too often brought before the public. They have everything in their favor to recommend them as a substitute for Endive, which, at best, is inferior as a bitter, and it is far more troublesome to grow and keep. First of all, however, a demand must be created for such things. They must be asked for by the public. Growers will not speculate in the production of what they cannot sell, and, owing to our late mild winters, Curled Endive has become so cheap and so good, arising from the superior manner of treating it to what used to be practised, that it is the only favorite as yet. As I intend, however, to treat of Endive in my next article, I will confine my remarks, for the present, to the following account of Chicory, which is extracted from one of my pamphlets.

“Wild or uncultivated Chicory is to be seen all over Britain during the months of July and August. The stems rise 2 or 3 feet in height, and the branches are furnished with long dandelion-like leaves—the blossoms being blue; planted in rich earth, however, the stems often grow six feet high, and form a large bushy flowering plant, which would form no mean ornament to a border or shrubbery.

“The heaviest root I ever grew was three-quarters of a pound, and its length 15 inches—in fact, it was as large as a fine stick of horse-radish. The seed of Chicory ought to be sown about the first of June, if the soil is light and the situation warm; but should the soil be strong and retentive, it ought to be sown in the middle of May. I have found by experience, that if too soon sown, it will run to seed. The ground having been well dug, drills should be drawn 1 foot apart, the seed sown as parsley is, and about the same depth. When the plants are up, thin them out to 1 foot apart in the rows, leaving if possible the broadest pointed leaved ones. Nothing more is necessary than to keep them clear of weeds. Should any run to seed, pull them up, when they have done growing; in November the roots should be dug up and stored like beet-root. In cutting off the leaves care must be taken not to injure the centre, from which comes all the salad.

“In 1836, I had a quantity of mould put into a cellar, in the shape of a bed, and planted with Chicory roots as soon as they were taken from where they had grown during the summer. I planted 300 roots in the bed, keeping them four inches apart, light and air being entirely excluded. They soon began to grow, producing long, fine cream-colored leaves, and when about six inches long, I sent them to table as salad, cutting off the leaves carefully; for if you cut into the quick, it would stop a second, third, and fourth crop of leaves which a root produces, until its cells are as empty as a honey-comb, or until entirely exhausted. From the number of plants in my cellar, I could have supplied ten families such as mine; but it was not until the occurrence of the severe winter of 1838, that I sufficiently appre-

ciated the use of Chicory as a salad. The frost and snow were severe; all endive, lettuce, celery, &c., became rotten. Nevertheless, our salads were the very best in London. Every one who dined with my employers enquired what it was they so much liked, and every one ordered it to be grown afterwards.

"Twelve years ago, when I came to Camberwell, I grew the roots with the view of introducing it as a salad into Covent Garden market. I had it planted in a pit where there was a fire, and I covered the glass with mats to exclude light. I also had five or six roots put into a large-sized pot, and inverted another pot over the heads, stopping the hole in the bottom of the top pot. This is an easy plan, and it answers well for a small family, just introducing a few pots into heat anywhere. In the winter of 1839, or early in 1840, I carried to market a basket of this fine salad, tied up into sixpenny bundles, a price which I thought would pay well. No one had ever seen it—no one had heard of it—and no one would buy it; an old herbalist (Mr. Steptoe) examined it; he was a buyer of Dandelion leaves and all sorts of things for foreigners. He bought all my Chicory leaves, and paid 9s. for them, but he could not sell them. Next morning he said, 'Tis of no use bringing these things, I have only sold a few bunches to foreigners.' Then I said, 'Take the lot this time for nothing.' He did so a third time with no better success; then I gave up its culture, pitying poor John Bull for despising the finest of all salads, the best of all tonic bitters, and that too at a fair price. I am in hopes even now to see it yet, however, largely brought into public markets. It often takes many years' hard fighting to persuade people for their own benefit. In the various places in which I had lived previous to my paying attention to Chicory, I had been continually annoyed by ladies and gentlemen who had travelled abroad telling me how much superior foreign salads were to English ones. The broad-leaved Belgian Chicory is best for salad."—(*Gard. Chron.*, 1852, p. 276.)

MANAGEMENT OF PLANTS IN POTS WHEN TURNED INTO THE OPEN GROUND.—A correspondent asks us the following questions, and as they are intimately connected with and refer to some of the most important of all the practical operations of horticulture we willingly give it prominence. He says, "You recommend the roots of all plants that are to stand more than a year, to be unravelled and spread out when planted. Now is the same practice applicable to magnolias and camellias? The roots of these are very much matted in the pots, and easily broken and injured. I purpose planting out permanently some magnolias in the pleasure ground, and camellias in the conservatory pit. What, therefore, ought to be my course?"

To the experienced horticulturist two things will here present themselves: the first is, the importance of carefully disentangling and spreading out as straight as possible the leading roots of all plants whatever, which are planted out, and are naturally capable, under favorable circumstances, of attaining a large size; the next is, the great care and watchfulness required to secure success in planting out into the free soil such plants as camellias when they have become large. These are the leading points of

inquiry, and, as we have already stated, they are important ones. On the first we need not again enlarge, since we recently adverted to that subject, further than to repeat that all kinds of trees whatever that may have at any time been grown in a garden-pot, and are of such kinds also as naturally attain the size of a tree or large shrub, ought never to be planted without their roots being first laid out as straight as possible. We know of no exception to this rule amongst hardy plants which deserve the name of trees. If there are any trees with roots similar to those of *Rhododendron ponticum* or *camellia*, which never do, under any circumstances, make large or strong roots, then in the case of such trees an exception may be made; but all others, magnolias included, ought to be treated in the way to which we refer.

With regard to planting into the free soil large and established plants of *camellia*, the chief thing to be feared and guarded against, is the fatal and common evil of perishing for want of water at the roots. We have seen this happen, as many others have seen it, scores of times. A *camellia*, or any other plant which has for some time previously been grown in a garden-pot or tub, and the ball of earth has become filled with roots—the plant is timidly removed from its pot or tub, and if possible without disturbing a single root; it is so placed in the bed of earth prepared for it, which is cautiously placed around it, and it may be that the surrounding earth is made very solid and firm by treading; but it is equally probable that it is not.

We are far from wishing it to be supposed that we believe this to be the common practice of experienced horticulturists; but we have seen it happen in the hands of persons who have had great experience; and notwithstanding anything that we can say either now or hereafter, it will of course continue to happen. Any plant or tree, therefore, which has for some time been grown in a pot or tub, the ball of earth and the roots having become hard and much matted, being turned out into the loose earth of a conservatory—but little reflection will be needed to understand that a plant so circumstanced must suffer for want of a due share of moisture at the roots. That this must take place is evident, unless some artificial means be adopted to compel the water, which from time to time is given to the plant, to pass through the hard and compact earth containing the roots of the plant, and not pass into the coarse soil of the common border. The latter is that which so frequently happens, and causes the death of so many *camellias* and similar plants when turned into the free soil.—(*Gard. Jour.*, 1852, p. 259.)

HINTS FOR THE MANAGEMENT OF THE FLOWER-GARDEN.—"My flower-garden is small, but I like to see it gay. I endeavor to make it so, but I never succeed so well as I could wish. I have no convenience for wintering what are called bedding-plants, and my means will not allow me to spend much money in their purchase; but my friends, who know my love for flowers, and are acquainted with my circumstances, tell me I might accomplish a great deal by employing annuals. I have tried them for several seasons, and am not satisfied with the effect they produce. The greater

part are so chary of their beauty, that they scarcely retain their charms for a week. Every shower, too, and every breeze, seems to destroy their attractions, and altogether I despair of attaining my object; yet certain it is, that from annuals I must principally expect my summer display of floral beauty. If you can furnish me with a few hints, and enable me at least to approximate my wishes, I shall be gratified."

This note, which we give at length, contains the substance of one or two others which have come to hand on a like subject. At a corresponding season we yearly receive similar communications, and as the information required is of general application, we give our reply in such a manner as will, we trust, benefit not only those directly interested, but many of our readers besides.

Annuals are calculated to effect much in the summer decoration of a flower-garden: their variety is great. In habit, in foliage, in the color of their flowers, they exhibit a great diversity, and from amongst them may be selected such as are suitable for all situations, and to please all tastes. But no plants are, as a general rule, worse treated than annuals. Because they are for the most part easily obtained, and as easily raised, they receive but a scanty amount of attention—certainly not of a nature to develop their proper character and value. As generally met with, they are weak, straggling, and weedy, easily damaged by rain and wind, and generally of but brief duration; yet if proper attention is afforded them in the several stages of their progress, they become highly effective and useful, both for cultivation in the open borders as well as for pots. Many of the kinds are admirably adapted for "massing."

We shall now only speak of hardy kinds, such as may be sown in the borders where they are to flower, or in a reserve garden, and be afterwards removed to their permanent situations. When sown where they are to flower, the prevailing practice is to allow them to remain too thickly, smothering each other in their struggles for light and air, inducing a premature maturity, which of course is followed by their speedy dissolution. As soon as they are fairly above the ground thinning should commence, and be progressively followed up till in the place of fifty or more plants perhaps only five remain. Of course the distance at which it will be necessary to leave them will depend on the kinds, and on the richness of the soil. But the best system with the hardy kinds is to sow them in a spare piece of ground, and prick them out as soon as they are large enough, and only removing them to the flower-borders as vacancies may occur, or as they approach their flowering state; and by thus treating them, a good succession is always attainable—a point of no mean import where they have to be depended on for a principal item in the summer display.

In sowing them a somewhat poor soil should be chosen, and when of a sufficient size to handle, choose a level spot, which can be shaded during the hottest part of the day, and after thoroughly beating or rolling it, to produce a hard surface, place upon it a layer of compost, chiefly composed of leaf-mould, in which plant the young annuals a few inches apart. With proper attention to watering and protection from insects, their progress will

be rapid; abundance of roots will be produced, and the hardened surface beneath will preserve their roots from penetrating too far, to render their being transplanted safely. Here they will always be ready for removal to their blooming places. No check will result from their removal if the most ordinary care is observed. Scarcely a root will be lost in the process, and they become effective at once. Should they not be required till fairly in bloom, they may be as safely removed then as at any other time.

It will be obvious that by a little attention to successional sowing, a supply of good plants may be obtained from the beginning to the end of the season.—(*Gard. Jour.*, 1852, p. 259.)

WEIGELA ROSEA AND DEUTZIA SCABRA AS SUITABLE SHRUBS FOR FORCING.—I am unacquainted with any hardy shrubs better qualified for conservatory decoration during winter and spring than *Weigela rosea* and *Deutzia scabra*, unless it be hybrid *Rhododendrons* and *Azaleas*. These are certainly very beautiful, combining harmoniously almost every tint and variety of color which is possible for the most refined taste to conceive. Still, with all this array of beauty, the *Rhododendron*, from the inflexibility of its foliage, and unequal distribution of the flowers among the leaves, lessen that pleasing contrast which diversity of color when properly arranged is calculated to convey. Plants to be really interesting, nearly, if not as much, depends on their habit of growth as the shape and tinselling of the flowers, whether they decorate our hot-houses or shrubberies. At all hazards, I presume that most people will admit of the conditions to which I have alluded as being most important features; at least I am strongly impressed with the opinion. But to return to the subject of my notice. *Weigela rosea* and *Deutzia scabra* are not only excellent shrubs for forcing, but easily propagated, either by suckers, layers, or cuttings; and so accommodating in their nature as to be flowered with as much freedom in a pot five inches in diameter as one twelve inches. When they are required of a large size, it is preferable to plant them in the open ground for a year or two, and pruned back just before they begin to vegetate, to give a compact habit. Vigorous shoots are sure to result from such treatment; and very probably, unless the preceding summer has been unusually warm, few if any flower-buds have been formed. Let us continually bear in mind that the most cautious and attentive course of forcing will fail, unless a full amount of woody fibre has been produced, that organized material from which alone flowers can arise. These shrubs, like many others to be forced into flower at an early season, require to be established in pots a year previously, to ripen the wood thoroughly and preserve the roots from mutilation. After they are potted, keep them in a rather shaded situation till the young roots begin to grow, when they should be exposed freely to the sun; and as the season advances, plunge the pots to the rim to prevent the extreme point of the roots from being scorched. Whether we admire most the erect rose-colored flowers of the *Weigela*, or the drooping white blossomed racemes of the *Deutzia*, both are valuable additions for forcing.—(*Gard. Jour.*, 1852, p. 260.)

LIFTING FRUIT TREES.—It is my practice carefully to lift my peach and

nectarine trees once in five years, which I find to be an excellent plan; it induces the development of embryo buds in the large branches, and produces a uniformity of fine short strong wood throughout the whole of the tree. Since I adopted this practice I have neither suffered with curl or insects. Many of my trees measure from 26 to 30 feet from tip to tip of the branches, and every part of them is filled with fine fruiting wood quite to the stem. In this operation care is taken to get up the tree with all the roots possible, which are all carefully spread out on an even surface at one given depth in replanting; by this means the roots have all equal action with each other, which I consider a very important feature in the culture of all fruit trees. Moving trees in this way will cause them to be fruitful, and the fruit will be finer both in size and flavor, and the trees more naturally healthy than if subjected to that much recommended, though diabolical system, called "root-pruning."—(*Gard. Jour.*, 1852, p. 260.)

PREPARATION OF SOILS FOR POTTING.—The routine of operations in the plant and forcing department having been sufficiently dilated upon the last few weeks, and there being no particular operation necessary to be noticed, I will this week take the opportunity to make a few remarks on soils, which is perhaps one of the most important considerations which can occupy our attention; for without a due supply of soils of all descriptions, properly aerated and prepared for immediate use, success in growing plants of all kinds subjected to artificial treatment can only be considered adventitious. It is generally allowed by all good cultivators that soils for pot purposes should undergo a long process of preparation; and as the present is a good season for getting them together, I am inclined to believe that a few remarks deduced from practice may not be out of place, even in a weekly calendar of operations. I propose to treat of them under their several heads, and first Loam. The goodness of this important soil is mainly dependent on the substrata from which it is taken. The best for all plant purposes I have ever met with, was three inches taken with the turf from a meadow situated at the junction of a deep substratum of gravel, with one of clay: the loam itself was nearly two feet deep, and the subsoil good enough for many garden purposes. This loam was carted home in dry weather, and stacked in a deep ridge, turf downwards, about six feet high, and resting on a base of four feet. It was full of fibrous roots, very soft and unctuous to the touch, rather sandy, and possessed in a remarkable degree the indispensable quality of not running together or binding when wetted. It is desirable to secure a loam possessed of these qualities as near as possible. A loam from the top of gravel is better than from the top of sand, or clay, or chalk. If it lies deep on chalk, it is next best: that from sand is often very poor, and, if the sand is fine, liable to run together: so that I would prefer a good loam from the top of clay to it, as we can always add coarse porous material. As a general rule, from two to three inches is quite thick enough to cut it. Peat: This is more difficult to obtain of that genuine quality that cultivators of hard-wooded plants delight in. Many, indeed, confound bog, or decayed marsh vegetation, and alluvial deposits with peat; but they are as different in quality as in the effects pro-

duced by their use in cultivation. Bog often runs very deep, peat suitable for plant purposes never—sometimes not more than two inches deep on a gravelly subsoil. The best, however, is that which is full of fibre from decayed heath-roots and moss, from four to six inches deep, on a sandy, pebbly stratum, resting on gravel. This should also be carted home in dry weather, and stacked the same as directed for loam. Leaf Mould: This soil in its importance to plant growers is second to none. It should never be used under three years old, and four is better. The first year the leaves should be thrown together in a large heap to ferment, and we grow vegetable marrows on it to great advantage. The next year it is removed to the soil department, and kept aerated by frequent turnings; and the third year it may be used, but is better the next. Rotted stable manure is another important soil, which must also be prepared by frequent turnings and aëration for use the third and fourth year. Nightsoil must also be prepared by the foregoing category, and mixed with peat charcoal: the third year it may be handled for potting purposes—by the non-fastidious. Cow-dung, sheep's-dung, and pigeon's-dung should be prepared by the same routine, and, although not indispensable, are highly useful to be kept in stock where a strong luxuriant growth is desired. Another most important ingredient is Charred Earth. No plant growers should be without this most important ingredient in soils, as there is hardly any tree-growing plants but delight in a portion of it mixed with the compost. We use it with great success for calceolarias, pelargoniums, picotees, carnations, cinerarias, fuchsias, and a variety of soft-wooded plants. It is not difficult to procure, as there is always a great quantity of rubbishing wood, the prunings of trees and shrubs, every season. They should be collected in a suitable place, and once a-year, if not oftener, a great bonfire made, so as to lay a good foundation, and afterwards heap on alternate layers of wood and soil, and it will smoulder away for weeks, and is fit for use as soon as cold. Road-dirt, or the scrapings of roads, formed of gritty sandstone, is another very important soil, and if carefully collected will be highly impregnated with the droppings of horses and other beasts of traffic. Charcoal, whether purchased or home-made, must be kept in stock, being useful for many purposes, but principally so for mixing with the drainage of flower-pots. Silver sand must not be forgotten, and with plenty of moss and crocks for drainage, will complete the list of requisites for good cultivation, where an extensive cultivation of plants is kept up. The proper application of these different soils can only be learned by practice and experience. As a general rule, all soft-wooded, free rooting plants, should have strong ingredients to assist the growth. Heaths and most hard-wooded greenhouse plants of a like nature will flourish best in pure peat. Some, however, which both grow and root freely, will bear the addition of a trifle of loam and leaf mould; a small portion of charcoal mixed with both soil and drainage is also very useful to these plants. Soil for seeds may be sifted, but for growing plants never do more than chop it finer or coarser, according to the size of the shift—for a large shift let the compost be used very rough. It is needless now to amplify on this subject, as I hope to be able to point out a few applications by and bye.—(*Gard. Jour.*, 1852, p. 293.)

PLANTING PINUSES.—I am glad to see you urge on planters the propriety of disengaging and spreading out the roots of *Pinus* and other trees which have been reared in pots; had such been done in every case where these trees were planted years ago, we should not have to lament the condition many of them are in at the present day. Only a week or two ago I had a fine plant of *Pinus Montezuma* twelve or fifteen feet high, very strong and well furnished; but it had evidently been just turned out of a pot, and the coil of roots thus formed had just been planted so. The consequence was, that as the tree advanced in growth, this coil becoming likewise elongated, and requiring room, gradually elevated the collar of the plant above the ground; to remedy which, soil was added, until a perfect mound was formed on which it stood. Fastenings were also put in requisition; but these are at best unsightly things, and always perishable; besides, it is no easy matter to secure a top-heavy tree, and the consequence was that one windy night our tree was blown down. Now this is not a solitary case. I have several more which I dread will suffer in a similar way, though none of them show the evils of the system of planting so much as this one. Had the roots of all been carefully unfolded and spread out in different directions at their full length, they would have acted as so many stays or braces, against which the elements could have but little power.—(*Gard. Jour.*, 1852, p. 212.)

ART. II. *Domestic Notices.*

NATIONAL AGRICULTURAL CONVENTION.—A circular has been issued by the Presidents of various Agricultural Societies, in the different states, calling a Convention, to be held at Washington, on the 24th of the present month; and they invite delegations from the various societies to meet at that time.

The objects of the Convention "are to organize a National Agricultural Society, to which the various societies will be auxiliary; to consult together upon the general good, and to establish by this Society, or such other means as the Convention may devise, a more cordial and widely extended intercourse between agriculturists in our own country, and other lands; to create additional facilities for the acquisition and diffusion of knowledge by books, journals, seed, and other objects of interest to the American farmer and gardener; and to act on such matters pertaining to the advancement of agriculture as the wisdom of the Convention may judge appropriate."

Societies intending to send delegates, will please transmit a list at an early date to D. Lee, M. D., Agricultural Department of the Patent Office, Washington. Signed M. P. Wilder, H. Wager, J. C. Gray, and nine other gentlemen, Presidents of various State Agricultural Societies.

THE NEW YORK STATE AGRICULTURAL SOCIETY will hold its next annual fair in Utica, on the 7th, 8th, 9th, and 10th days of September next. A list of the premiums has been published, but we have no room for its insertion. The prizes are liberal in the flower, fruit and vegetable depart-

results: and a fine show may be anticipated, particularly as the presence is guaranteed of a great crop of young and ripened.

EXPERIMENTAL CAVES VALUABLE AS A MANURE.—Professor Norton states that the "white soil" contains 2 C-400 lbs. soluble matter, and the soil 2 50 lbs. Besides this, there was a further and larger portion of soluble matter, amounting, in white soil, to 7 50-800 lbs. in 100, and in soil to 5 lbs. In looking at the results of these results, we may draw the general conclusion that in the soil of agriculture, calling these fair specimens, we have in every 100 lbs. from four to eight lbs. of valuable nitrogenous matter, of a nature suitable for adding to any soil requiring manure."

This is the opinion of Professor Norton, confirmed by Professor Mapes. Those who wish to satisfy themselves of the correctness of their opinions would do well to try them, and note the result. For learning a day and they may be some good: but as a summary we consider them of very little value.

ART. III. *Horticultural Societies.*

AMERICAN POMOLOGICAL CONGRESS.—In compliance with a resolution passed by the American Pomological Congress, during its session at Cincinnati in October, 1850, it becomes my duty publicly to announce that the next session will be held in the city of Philadelphia, on Monday, the 13th day of September, 1852. The congress will assemble at 10 o'clock, A. M., in the Chinese Museum Building, South Ninth street, below Chestnut.

The Pomological, Horticultural, and Agricultural Societies throughout the United States and Canada, are invited to send such number of delegates as they may deem expedient. And the delegates are requested to bring with them specimens of the fruits of their respective districts.

Packages and boxes of fruit for the congress may be directed to the care of Thomas P. James, Esq., No. 212, Market street, Philadelphia, should the owners be unable to give their personal attendance.

The various State Fruit Committees, enumerated in the subjoined list on the next page, will, on or before the day of meeting, transmit their several Reports to A. J. Downing, Esq., general Chairman of the whole. The Chairman of each State Committee is authorized, where vacancies occur, to fill up the number of his Committee to five members.—W. D. BRANCKLE, M. D., *President. Philadelphia, May 1, 1852.*

LIST OF STATE FRUIT COMMITTEES.

Massachusetts, Robert Manning, Salem.

Vermont, C. Goodrich, Burlington.

Maine, Henry Little, Bangor.

Connecticut, V. M. Dow, New Haven.

New York, B. Hodge, Buffalo; A. Saul, Newburgh.

New Jersey, Thomas Hancock, Burlington.

Pennsylvania, Thomas P. James, Philadelphia.

Ohio, A. McIntosh, and Prof. J. P. Kirtland, Cleveland; Dr. John A.

Warder, Cincinnati; Dr. S. A. Barker, M'Connellsville; Rev. C. Springer, Meadow Farm.

Kentucky, Lawrence Young, and H. P. Byram, Louisville; Mason Brown, Frankfort; H. F. Duncan, Lexington; P. Blanchard, Maysville.

Virginia, Yardley Taylor, Loudon.

Delaware, Edward Tatnall, Jun., Wilmington.

South Carolina, J. G. Drayton, Charleston; William Summer, Pomaria.

Georgia, Dr. Camak, and Dr. Ward, Athens; Jonson J. Harris, Milledgeville; D. Green, Macon; Richard Peters, Atlanta.

Louisiana, James Evans, New Orleans.

Tennessee, L. P. Yandell.

Mississippi, M. W. Phillips, Edwards.

Missouri, Thomas Allen, St. Louis; James Sigerson; E. Abbott.

Indiana, James Blake, Indianapolis; J. Bell, New Albany; — Scott, Madison.

Illinois, Dr. J. A. Kennicott, Northfield; Prof. J. B. Turner, Jacksonville; S. Francis; Edson Harkness; C. R. Overman.

Michigan, J. C. Holmes, Detroit; W. H. Scott, Adrian; A. T. Prouty, Kalamazoo.

Wisconsin, F. R. Phoenix, Delevan.

Iowa, Henry Avery, Burlington.

Canada West, James Dougal, Amherstburgh.

District of Columbia, Joshua Pierce, Washington.

New Hampshire, J. Hill, Concord.

We are glad to see so good a prospect of fruit this year: if as good as the promise, the convention will be one of the most interesting yet held—as we may anticipate the exhibition of many of the new and rare varieties. We trust our Horticultural Societies will at once appoint delegates to the convention.—Ed.

MONTREAL HORTICULTURAL SOCIETY.—The following is a list of the officers for 1852.

President.—Hugh Allan, Esq.

Vice Presidents.—Hon. Justice Day, Hon. Justice McCord, Rev. Mr. Villeneuve, Hon. A. N. Morin, M. PP.

Treasurer.—John Frothingham.

Secretary.—Wm. Brown.

Directors.—Right Rev. Dr. Fulford, Mr. Sheriff, Boston, S. J. Lyman, J. J. Day, John Torrance, E. Muir, James Ferren, Jr., Geo. Shepherd, Richard Speigpigs, J. E. Guilbault, Chas. Hagal, Jas. Cooper, George Gaith.

The Society hold four exhibitions, viz.: one in May, one in June, one in August, and the annual one in September. The list of premiums has been forwarded to us by the Secretary, Mr. Brown, and makes a neat pamphlet of 26 pages. The Society is in a flourishing condition, and its shows of flowers are remarkably fine.

COLUMBUS (OHIO) HORTICULTURAL SOCIETY.—The following are the officers for the present year:—

President.—John Miller.

Vice Presidents.—(1st,) L. Buttles, (2d,) Benj. Blake.

Treasurer.—Adam Sites.

Corresponding Secretary.—H. C. Noble.

Recording Secretary.—Geo. B. Comstock.

Council.—The President and Treasurer, *ex officio*, and Messrs. A. E. Glenn, J. Barr, and F. Stewart.

Garden Committee.—Dr. I. C. Jones, for five years; Benj. Blake, four years; Lucien Buttles, three years; Robt. Hume, Jr., two years; John Miller, one year.

HARTFORD COUNTY HORTICULTURAL SOCIETY.—The Annual Meeting of the Hartford County Horticultural Society was held on the 3d instant, and the following officers were chosen for the year ensuing, Alfred Smith, Esq., the President, declining a re-election:—

President.—Wm. W. Turner.

Vice Presidents.—(1st,) Henry Wygatt, (2d,) John S. Butler, M. D.

Recording Secretary.—Gardner W. Russell, M. D.

Corresponding Secretary.—Thomas R. Dutton.

Treasurer.—Erastus Smith.

Auditor.—H. L. Bidwell.

Standing Committee.—Wm. W. Turner, Dr. H. A. Grant, P. D. Stillman, Joseph Winship, George Beach, Jr., Dr. T. L. Comstock, Dr. Gardner W. Russell, T. H. Goodwin, H. W. Terry, E. A. Whiting, H. L. Bidwell, Charles L. Porter, Henry Affleck, Wm. G. Comstock, Francis Gillotte, W. W. Stanley, Daniel S. Dewey.

It was voted to continue the weekly exhibitions on Saturday, which have been very well attended, and arrangements are in contemplation for a show of greenhouse plants in May, and for a large exhibition of fruits and flowers in September.

AMERICAN INSTITUTE, N. Y.—The annual election of the officers of this Association took place on the 13th May, when the following gentlemen were elected. There was quite a spirited meeting; the name of Gen. Adoniram Chandler, the Corresponding Secretary and Agent, being left off of the regular nomination, his friends rallied and carried the entire ticket on which his name was placed.

President.—James Talmadge.

Vice Presidents.—Robert Lovett, Robert L. Pell, George Bacon.

Recording Secretary.—Henry Meigs.

Corresponding Secretary and Agent.—Adoniram Chandler.

Treasurer.—Edward T. Blackhouse.

Finance Committee.—John Campbell, John A. Bunting, George Dickey, George Bacon, N. G. Bradford.

Managers of the Twenty-Fifth Annual Fair.—Joseph Torrey, James R. Smith, Isaac V. Brower, William Ebbitt, John A. Bunting, F. W. Geissenhainer, Jr., Petre B. Mead, Paul Stillman, Benedict Lewis, Jr., William Hall, Edwin Smith, Benj. Aycrigg, John B. James, Lewis G. Morris, Richard M. Hoe, George S. Riggs, Patrick Henry, George Harrison,

Jordan L. Mott, Shepherd Knapp, Joseph Cowdin, George Dickey, Thomas W. Harvey, Joseph R. Taylor, Jared L. Moore.

Committee on Agriculture.—Lewis G. Morris, David Banks, D. S. Gregory, Robert S. Livingston, Jas. De Peyster.

Committee on Commerce.—Freeman Hunt, Nicholas Carroll, Jonathan H. Ranson, Jared L. Moore, John Disturnell.

Committee on Manufactures, Science and Arts.—James Renwick, T. B. Stillman, D. M. Reese, H. R. Dunham, Edwin Smith.

Admission of Members.—George F. Barnard, John Gray, Hiram Dixon, Wm. C. Arthur, Ralph Hall.

Committee on Correspondence.—Benj. Aycrigg, Peter S. Titus, James Van Norden, F. P. Schoals, S. R. Comstock.

Committee on the Library.—Ralph Lockwood, Isaac V. Brower, Alex. Knox, Jr., G. Gifford, E. Williams.

ART. IV. *Massachusetts Horticultural Society.*

Saturday, May 1, 1852.—The adjourned meeting of the Society was held to-day,—the President in the chair.

The President read a letter from Mr. Townsend Glover, thanking the Society for the use of the hall. The President also read a letter from the Hon. Joel Parker, in reference to appropriations of money for a monument to General Dearborn.

On motion of Cheever Newhall, a motion to reconsider the vote to appropriate \$100 to a monument to General Dearborn was entered upon the books.

The Society voted to subscribe for the American Pomologist.

Books and seeds were received from M. Vattemare, which were referred, the former to Library Committee, and the latter to Vegetable Committee, for distribution.

Lebbeus Stetson, Somerville; C. P. Fessenden, Boston; and Isaiah Bangs, Cambridgeport, were elected members.

Adjourned two weeks, to May 15.

Exhibited. FLOWERS: From R. M. Copeland, thirty varieties of Hyacinths, some of them very fine. From Jas. Nugent, seedling Verbenas.

FRUIT: From A. Bowditch, Walker's Seedling Strawberry, in pots, well grown, and colored fine.

May 15.—An adjourned meeting of the Society was held to-day,—the President in the chair.

On motion of Mr. Bowditch, it was voted to open the hall for Exhibitions, on Saturday the 22d.

The motion of Mr. Newhall, for reconsideration, was laid over to next meeting.

It was voted that the President prepare a list of Delegates to the Pomological Convention.

F. Burr and M. H. Burr, Hingham, were elected members.

Adjourned next week to May 22.

May 22—An adjourned meeting of the Society was held to-day, the President in the chair.

The President reported the following list of Donations to the Pomological Convention:—

The President, Messrs. Wilder, Walker, Francis, C. M. Hovey, Lovett, and Wight.

The report was accepted, the donations thanked, and the Committee instructed with power to fill vacancies and add to their number, if necessary.

On motion of Mr. Walker, the vote relative to an appropriation lately made to aid in the erection of a monument in Central Cemetery, was reconsidered, and the subject laid on the table.

Adjourned next week to June 5.

Opening of the Show.—The first public Exhibition of the Society took place to-day. The day was fine, and the display excellent. Mr. Schimmin, gardener to J. P. Conning, Esq., sent some fine large specimens, which carried off the first prize. The pelargoniums were very ordinary, with the exception of 5 new fancy varieties from Messrs. Hovey & Co. The following is the report:—

From M. P. Wilder, 12 Seedling Calceolarias: 2 Pelargonium Annis; 6 Azalea indica, var. and other plants. Cut flowers.—*Spiraea prunifolia*. From E. M. Richards, 24 varieties of cut flowers. From W. Kenrick, basket of flowers. From P. Barnes.—*Vicia papilionacea*: native plant for a name. Cut flowers.—*Iberis*: *Polyanthus*: *Pansies*: *Dodecatheon*: *Phlox*: *Spiraea prunifolia* and other cut flowers in great variety. From J. Nugent, fine plant of *Erica ventricosa superba*: 1 bouquet, and cut flowers in great variety. From T. Page, *Azalea excelsa*. From J. A. Kenrick, *Magnolia Soulangiana*; *Spiraea prunifolia* and other cut flowers. From S. Walker, *Spiraea prunifolia*, *Dodecatheon*, *Phlox*, *Ranunculus* and other cut flowers.

From Hovey & Co. 6 Fancy Pelargoniums, viz.: *Formosa*, *Jehu superba*, *Belie d'Epiney*, *Jenny Lind*, *Empress* and *Perfection*; also fine *Pansies*. From J. Breck & Son, *Hyacinths* in var. From A. Bowditch, 21 pots of plants, viz.: *Cinerarias*, *Oranges*, *Tropaeolum*, *Pelargoniums*; one fine Orange Tree in full bloom; cut flowers in var. From J. Mann, Jr., *Pansies* in var. From Dr. C. F. Chaplin, *Pansies* in var. From Winship & Co., *Dicentra spectabilis*; *Spiraea prunifolia*, and cut flowers in var.

PREMIUMS AND GRATUITIES AWARDED.

PELARGONIUMS.—Class I. For the best six new and rare varieties, to A. Bowditch, 1st premium, \$6.

CUT FLOWERS.—For the best display, to P. Barnes, \$3.

For the second best, to A. Bowditch, \$2.

CALCEOLARIAS.—For the best six varieties, to H. Schimmin, \$3.

For the second best six varieties, to M. P. Wilder, \$2.

GREENHOUSE PLANTS.—For the best display, of not less than 20 pots, to H. Schimmin, \$25.

For the second best display, A. Bowditch, \$15.

For the third best display, M. P. Wilder, \$10.

HYACINTHS.—For the best display of 20 varieties, to R. M. Copeland, \$5.

For the second best, to J. Breck & Son, \$3.

PANSIES.—For the best 12 distinct varieties, to Hovey & Co., \$4.

For the second best, Jona. Mann, Jr., \$3.

For the third best, C. F. Chaplin, \$2.

GRATUITIES.—To A. Bowditch, for Orange tree, \$3.

To T. Page, for Protea, \$1.

To J. Nugent, for Bouquet and Erica, \$2.

To P. Barnes, for Viola papilionacea, \$1.

To W. Kenrick, for Basket of Flowers, \$1.

Exhibited.—**FRUIT:** From Jas. Nugent, Black Hamburgh grapes. From W. C. Strong, Black Hamburgh grapes. From H. Schimmin, Black Hamburgh, and a variety of Chasselas grapes, without name. From Thos. Page, Roxbury Russet apples.

VEGETABLES: From Jonathan Mann, 3 bunches asparagus, 24 stalks weighing 1 lb. 11 oz. From Jos. Crosby, 8 bunches asparagus, 14 stalks weighing 1 lb. 9 oz. From A. Wales, Racehorse cucumber, 13 inches long. From B. Woods, Long Green Prickly cucumber.

PRIZES AWARDED FOR VEGETABLES.

ASPARAGUS.—For the best, to Josiah Crosby, \$3.

For the 2d best, to Jonathan Mann, \$2.

May 29. Exhibited.—**FLOWERS:** From S. Walker, Tulips in var., Dodecatheon media, var., flowers in var. From J. A. Kenrick, Magnolia purpurea, and Soulangiana, cut flowers in var. From J. Breck & Son, Tulips in var., Hyacinths. From Winship & Co., Dicentra spectabilis, Double Persian Lilac, Spiræas in var., Azaleas in var., Phlox divaricata, &c., &c. From J. Nugent, cut flowers in great var., 3 bouquets, fine. From P. Barnes, Dicentra spectabilis, Spiræa prunifolia, Convallaria, Phlox divaricata, Dodecatheon media, Roses, Columbine, &c. From Miss Mary M. Kenrick, basket of flowers. From Wm. Kenrick, 3 bouquets, and cut flowers in var. From Miss Bruce, bouquet.

PREMIUMS AND GRATUITIES AWARDED.

TULIPS.—For the best display of 30 blooms, to S. Walker, \$8.

For the second best display, to J. Breck & Son, \$6.

GRATUITIES.—To Miss Bruce, James Nugent, Parker Barnes, Joseph Breck, Miss Russell, Miss Kenrick, Winship & Co., for cut flowers and bouquets, \$1 each.

Fruit: From W. C. Strong, Black Hauling, Mount of Zion, and Black July grapes. From J. B. Howe, Danvers, Green Sweet, and Mount's Lemon apples all in a fine state of preservation.

Vegetables: From J. Lewis, fine Asparagus and Lettuce. From A. J. Williams, Kansas.

HORTICULTURAL OPERATIONS

FOR JUNE.

FRUIT DEPARTMENT.

If April was one of the most unfavorable months, May certainly has been the very reverse. Vegetation was exceedingly backward on the 1st: but the three hot days of the 7th, 8th, and 9th, with the thermometer at 80°, started everything into growth, and advanced the season as much as two weeks of ordinary weather at that season: and at the present time there is little or no difference between this year and the last. No cold easterly storms, as is usual, have been experienced, and fruit trees, which blossomed remarkably full, have set their fruit better than we have ever observed before. From present appearances there will be a heavy crop of apples and pears.

GRAPES VINES, in the forcing houses, will now have ripened their fruit, which may be cut. As soon as this is done, give the house abundance of air to ripen off the wood. Keep all laterals stopped in as heretofore. Vines in the greenhouse or grapery will now be swelling their fruit rapidly, and if the thinning has not been attended to it should be done immediately; shudder the bunches, and keep the laterals close, as before advised. Water the walks freely, morning, noon, and night, in fair weather, to keep a genial atmosphere. Vines in coldhouses will now be setting their fruit, and will require the same management detailed in our last for the grapery. Vines in the open air will now require some attention; rub off all buds not wanted to make new shoots or bear fruit, and keep the young wood tied in regularly. Pinch off the laterals one or two joints beyond the fruit.

PEACHES in pots, now in bearing, may be removed to the open air, where they will mature their fruit in much greater perfection than in the house. Select a good place, out of the current of high winds. Water liberally. Young trees planted this year may have an occasional watering with guano.

STRAWBERRY beds should now be covered with straw, or mowings of the lawn, to prevent the fruit from being injured by rains; at the same time pull out every weed, which will keep them in good order till the fruit is gone.

FRUIT TREES of all kinds will now need attention. This is the time to begin to stake and tie up every crooked or ill shaped one, pruning them into proper form; and disbudding such as need it. Young trees on the quince stock, which bloom so freely, should not be permitted to bear too large a crop.

INSECTS will now require looking after. The canker worm, aphid, pear slug, curculio, gooseberry caterpillar, and others equally destructive, will be at work, and their ravages should be stopped as quick as possible. Whale oil soap we have found the best guard against their attacks.

FLOWER DEPARTMENT.

The weather of the last two weeks has been so pleasant, that, if taken advantage of, many plants may have been brought into the open air, or placed in cold frames, preparatory to plunging them out for the summer. But if not already done, no time should be lost in attending to it now.

June is a busy month where there is much of a collection; all kinds of plants wanted for blooming next winter will require looking after; some will need to be re-potted; others only top-dressed; some will require only a slight heading in; whilst others may be cut quite down, in order to get up a new growth. All kinds of summer bloomers will need a shift; climbers trained to the roof, or to trellises, should be pruned in, except such as are now blooming. Keep the house well syringed, and the temperature as even as possible.

PELARGONIUMS are now in their height of bloom, and produce a blaze of beauty, unsurpassed by anything but the *camellias*. What we said in favor of the *fancy* varieties last month, we may now say in favor of the show kinds. Some of the new ones are superb—superb. *Ajax*, *May Queen*, *Elegans*, *Beauty of Montpellier*, *Prince Arthur*, *Gaiety*, &c., are all great improvements on those of former years. Water liberally, and shade in the middle of the day, to prolong the bloom.

JAPAN LILIES in pots will require a shift, if not already done.

CAMELLIAS which have formed their flower buds may be removed to the open air. Plants inarched in February and March may now be cut from the parent stock.

AZALEAS will now be growing vigorously, and should be syringed morning and night.

OXALISES done flowering, may be placed away on a dry shelf.

FUCHSIAS will require to be shifted often, if fine large specimens are wanted.

MONTHLY CARNATIONS may now be layered.

CINERARIAS should now be looked after. Keep them in a cool frame, so as to encourage the growth of thrifty suckers. Water very sparingly.

CHINESE PRIMROSE seeds may be sown the last of the month for next year's stock. The double sorts should now be propagated from cuttings.

EUPHORBIA JACQUINÆFLORA and **POINSETTIA PULCHERRIMA** should now be encouraged in their summer growth, the former by turning out into the open ground, in a sheltered place.

HEATHS and **EPACRIS** will require attention. Select a half shady spot to keep them during the summer, plunging them in tan or sandy earth.

CACTUSES may be shifted as soon as done flowering, and partially pruned in, taking away the old wood.

CHRYSANTHEMUMS should now have a shift into larger pots ; top all long shoots so as to have stocky bushy plants.

ROSES, in pots, intended for early autumn blooming should be plunged in a cool, half shady situation. Cuttings may be put in now, and layers made of such as succeed best in that way.

CALCEOLARIAS should be kept in a cool situation, and be carefully watered.

GREENHOUSE PLANTS of all sorts should be neatly arranged in their summer quarters, where they can be properly watered, and taken due care of.

FLOWER GARDEN AND SHRUBBERY.

This department should now begin to assume a neat and beautiful appearance. Everything should have been done except setting out the bedding plants, and no time should now be lost to accomplish this. As the weather has been warm and fine, the grass edging and lawn will require considerable mowing. Put them in order, finish up the planting, and clear and rake all the beds neatly. Roses and other running plants should not be neglected as they advance in growth ; look them over often, and tie up in due season.

DAHLIAS should all be planted by the 20th of the month ; the earlier the better for *abundance* of flowers ; but the *late* ones generally give the best.

CARNATIONS and **PICOTEES** now throwing up their flower stems should be neatly staked.

HYACINTHS may soon be taken up, and their places filled with annuals.

HOLLYHOCKS, throwing up several strong stems, should have them thinned out to *three*.

ASTERS, **GLOBE AMARANTHUS**, and other showy annuals, raised under glass, should now be set out in beds, or in the border.

BIENNIAL and **PERENNIAL** flower seeds may now be planted.

PHLOXES and similar tall growing plants should be neatly tied up to a stake.

NEAPOLITAN VIOLETS should now be reset, selecting a half shady situation.

VEGETABLE DEPARTMENT.

The weather is so fine now that all kinds of tender vegetables may be planted out. Egg plants, peppers, cucumbers, &c., started in the hot bed, should now be removed to proper places in the garden. Continue to sow peas for a succession. Hoe and weed all crops in a forward state.

MELONS under glass, of the choice kinds, such as Beechwood, &c., should have a lining of fresh manure, if superior specimens are wanted.

CELERY should be planted out this month.

THE MAGAZINE
OF
HORTICULTURE.

JULY, 1852.

ORIGINAL COMMUNICATIONS.

ART. 1. *The Culture of the Grape: in a letter to Mr. Fleischmann, late U. S. Consul at Stuttgard, from Gen. Tallmadge, President of the American Institute, of the City of New York.* Communicated by GEN. TALLMADGE.

THE following interesting letter, giving some account of a valuable work published by Mr. Fleischmann, as well as information upon the culture of the grape, has been forwarded to us by Gen. Tallmadge, and will be read with pleasure by all who appreciate the importance of more attention to this delicious fruit, which is now well ascertained cannot be grown successfully in the open air in our climate. Mr. Fleischmann's work, which we have not seen, will be a most acceptable contribution to our stock of knowledge of this fruit.—ED.

My Dear Sir:—I am greatly obliged by your kindness in submitting to my inspection your work, in five volumes, large folio, of *Specimens of the Grapevine and its Culture*, and one volume on the *Melon*, &c. It is a gratifying circumstance that, after a three years' absence, you are enabled to return to the welcome of friends; and in addition to the character of fidelity in office, and improvement in the higher pursuits of literature, you are enabled to present six such manuscript volumes. It shows your leisure time from other duties has been spent in industrious pursuits; if not useful

to yourself, at least honorable to the country of your adoption. That country may well make it an occasion for some material demonstration to its author.

The kindness of the King of Wurtemberg, in allowing you free access, has enabled you to make your drawings, not only from his library and gardens, but from nature. The volumes of your work show you have successfully availed yourself of these opportunities, in the drafts and in the coloring of the specimens preserved. The stem, with the vine—the tendril, and the cluster of grapes; and the cutting, to engraft or to propagate, are the two figures of each variety, on each folio page of the book. They are executed with such precision of draft, and accuracy of coloring, as enable the eye to determine many of the varieties, without a reference to their names. It shows your ability with the pencil and the brush, and gives material value to the volume.

You seem to have copied your specimens very much as probably you found them, in the garden of the King of Wurtemberg. The wine countries plant the vine without classification, as being suited in their varieties, for the table grape or the wine-press. Climate compels England, and ourselves here, to regard these distinctions. She cannot cultivate the wine grape in the open air at home; and we cannot cultivate it certainly north of the Potomac. The books afford abundant information and instruction in regard to the selection and the cultivation of the wine grape. That selection regards only the varieties to produce the different kinds of wine. Your volumes present these varieties, with many interesting and useful specimens for that object. The southern and western portion of this country have a soil and climate peculiarly congenial to the production of the mulberry and the vine. The grape cannot endure any frost on its spring blossoms or ripening fruit. England can only raise the table grapes of Europe, with the aid of her hot-houses. It was the same case with ourselves. She has made her selections for this purpose from the vineyards of Europe; especially regarding size of cluster, flavor of grape, and delicacy of fruit. We, in this country, have made our selections very

much from England, and with some additions. We have the large Syrian grape, so beautifully copied in your book. The large Smyrna grape, so well exhibited in your book, remains to be obtained. Spain and Portugal each have imposing specimens of the table grape. But the large inviting grape is often tough, coarse, and without flavor. Whatever England has so long rejected in her selections, we must adopt with care.

Experiments to naturalize the foreign grape in about 38 to 42° of north latitude, have ascertained that our summers cannot be relied upon as exempt from frost beyond June, July and August. Frost oftentimes comes in the last of May and early in September. But say we have a summer, at most, of three and a half months, without frost. Experience has established that the foreign vine requires a season of from four to five and a half months to ripen its fruit into its luscious and natural flavor and sweetness. Upon such facts, all hope to naturalize the foreign vine to our northern latitude is given up. But experiments on this matter have since established that the foreign grape vine, planted in a cold, glass vinery, (without fire or artificial heat,) dependant upon the sunshine alone, will be entirely successful. The cold and frosts of April and May will not penetrate within the glass, and overcome the natural heat within to hurt the growing vine; nor the cold and frosts of September and October, and usually even November, will not penetrate to hurt the ripening fruit. Thus, a summer is provided of from seven to eight months' continuance, and free from frost, with a climate to be regulated by a thermometer and at any degree of heat desired, day and night, above the climate of the place of the nativity of the vine. The forcing power, and the growth of the vine and fruit thus matured, can only be credited by actual observation.

When the vines have performed their functions, and the crop is gathered, the vinery is to be opened to the season. The vines are laid down for their winter *rest*, and are thus kept in health, and escape diseases liable to befall vines in the heated house with exotic plants, continually growing and without rest for a series of years.

The entire success of this new system of the cold vinery for the grape, has been made certain by specimens of fruit large and fine beyond example, and exhibited at the fairs of the American Institute, the two years past. At the fair, in October last, of the American Institute, at Castle Garden, New York, and also at the Agricultural Fair, at Albany, gratifying specimens of the culture of the grape in a cold vinery, and without fire, were exhibited from the gardens of different gentlemen. Some were from the garden of Mr. P. S. Van Rensselaer, of New Hamburg, Dutchess County, and among them were exhibited clusters of the "Grape of Canaan," sometimes called the "Palestine Grape," measuring from the vine from 27 to 30 inches in length, and weighing from five to seven pounds a cluster.

The witnesses are therefore numerous in favor of the culture and encouragement of the foreign grape vine in this country.

The native grape of this country, when ripe, has a tendency to acetous fermentation and decay. The juice of the foreign grape is saccharine, with a tendency to granulate and to dry into preservation. The grapes of this country generally require a season of from about three to three and a half months to ripen. The saccharine fluid of the foreign grape is slow in its ripening and requires a season, according to the varieties, of from three and a half to six and seven months. The grape of Canaan and the purple grape of Damascus will illustrate. Several years ago I endeavored to grow these grapes with the Burgundy, Chasselas, and others, in the open air; they grew, and in the hot months promised well, but the fruit of the former were cut off by frosts when about half formed. We have since introduced them into our cold vinery, where they are now growing with very fair success; they require a soil suited, great heat, and a season of from six to seven months to ripen into full maturity.

These facts will regulate the selection and the treatment of the different varieties of the vine. England and ourselves might now contest with the vineyards and the wine countries of the continent; and win the premium, on table grapes, for

improvement in size, tenderness of skin, virgin bloom, delicacy of fruit, and equal flavor. Horticulture, with its ingenuity and the sciences at hand, will not linger long behind the occasion.

When Carolina and our southern friends shall have completed their monument in memory of prejudice,—persevering opposition and unmitigated hostility to “*internal improvements*,”—their more congenial soil and climate will enable them to reap the harvest and take the premium for production and improvement from us all.

The American Institute, of which you are a member, desire me to proffer their obligation to you, for submitting to their observation the volumes of your work,—of so much labor to you, so gratifying to them, and so creditable to yourself. Their best wishes will attend you.

I hasten to return the volumes so kindly submitted to my examination, and within the time limited for my retention—and send this note of my high commendation.

Permit me to proffer assurances of regard.

I am truly, yours, &c., &c., JAMES TALLMADGE.

C. L. FLEISCHMANN, Esq.,

U. S. Consul, at Stuttgart, Wurtemberg.

New York, May 24, 1852.

ART. II. *Descriptions and Engravings of three new Pears.*
By BAPTISTE DESPORTES, Angers, France.

It is with much gratification that we present to our pomological friends and readers generally, descriptions, accompanied with engravings, of three new pears, recently brought to notice in France. One of them, and probably the best, is named in honor of M. Kossuth, whose recent tour through the United States is still fresh in the memory of all; and in admiration of his talents as well as his energies in behalf of his suffering country,—to say nothing of the probability of his effecting what has been his life-long object, and what

every true American must sincerely wish,—this fruit has been deservedly dedicated by liberty-loving Frenchmen, who can distinguish the difference between him and the usurper of France.

We have no doubt that hundreds will be eager to possess a fruit of such excellent quality, bearing so honorable a name.

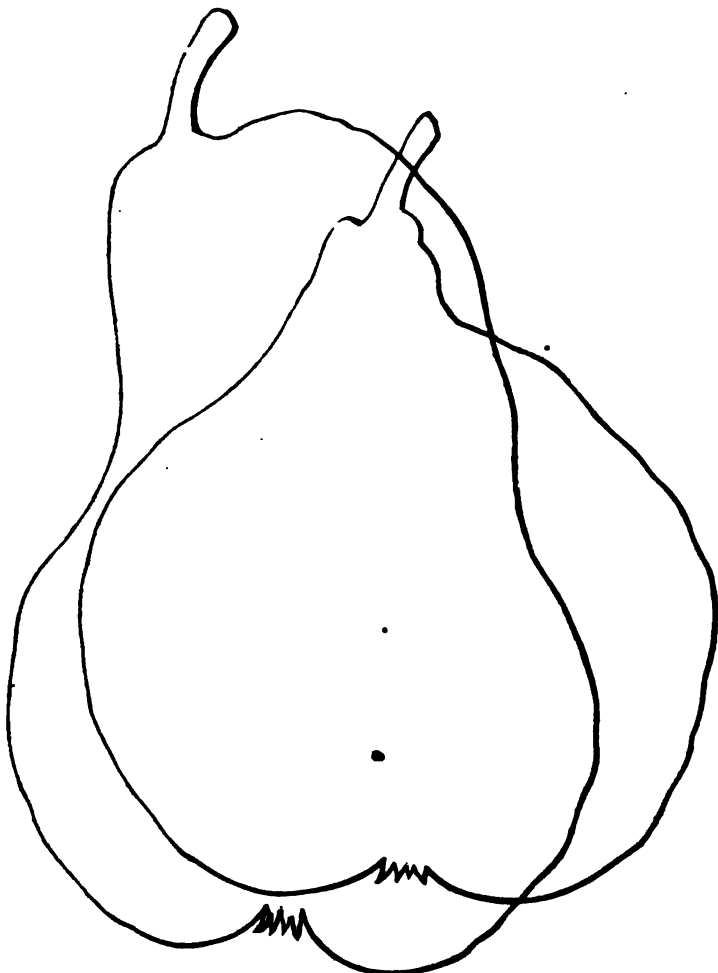


Fig. 21. Beurré Kosuth.

M. Desportes has promised us descriptions of other fine kinds, which we hope soon to lay before our pomologists.

1. **BEURRE' KOSSUTH.**

M. André Leroy has for several years been receiving from various persons many varieties of pears yet undescribed. Among the number have been found several kinds of very remarkable merit. One of them has been dedicated to that illustrious defender of Hungarian liberty, the celebrated Kossuth. The following is the description and figures of the fruits of this variety, (*fig. 21,*) gathered from the same tree, and yet of a form very different :—

Tree, of moderate vigor, little branched, forming, notwithstanding, a good pyramid.

Fruit, large, three inches long, and about the same in diameter in the largest part : *Form*, turbinate, rounded at the

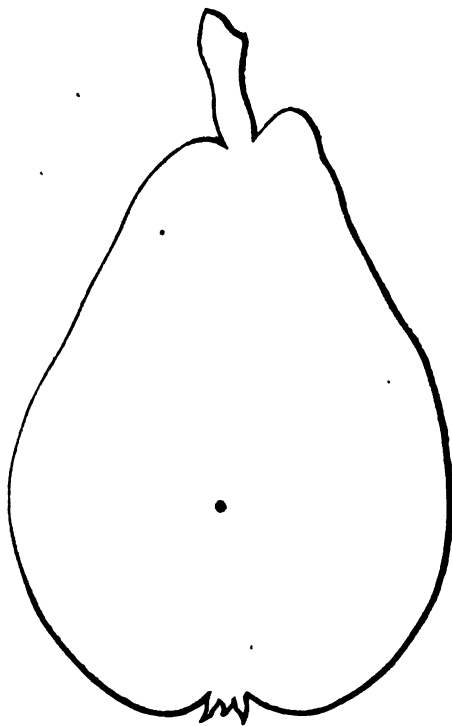


Fig. 22. General Lamoriciere.

crown, diminishing in undulations to the stem ; surface very uneven, rough : *Stem*, two thirds of an inch long, curved,

and inserted upon a little projection (*mamelon*); *Eye*, large, sunk in deep round basin; divisions of the calyx, small: *Skin*, thin, dull yellowish green, traced and freckled with gray or bronze, dotted with specks of the same color; yellowish around the eye, and greenish around the stem: *Flesh*, very fine, melting, buttery, sugary; juice abundant, slightly acidulated.

This is an excellent fruit, of the first quality, and, when well known, will find a place in every collection.

2. GENERAL LAMORICIERE.

Tree, moderately vigorous upon the quince, but a most abundant bearer.

Fruit, of medium size, (*fig. 22*,) about two inches long and two in diameter: *Form*, regular, pyramidal: *Stem*, two inches in length, stout, straight, swollen at the two extremities, and set in a cavity formed by two projections: *Eye*, large, closed, placed nearly even with the surface of the crown; segments of the calyx straight, projecting: *Skin*, of a uniform gray, sprinkled with green freckles: *Flesh*, greenish white, fine, melting, tender, buttery, and perfumed; juice abundant.

Ripens the end of September and commencement of October.

This is a fruit of the first quality.

3. BEURRE' DE BOLLWILLER.

This variety (*fig. 23*) is not new. M. Leroy received it of the Messrs. Baumann, of Bollwiller, some years ago; but has not fruited it in his school of specimen trees until 1851. The following is the description made from a fruit gathered from a tree five years old:—

Tree, moderately vigorous and fertile.

Fruit, medium size, about two and a half inches long, and two in diameter at one third of its height; it is turbinate, pretty regular, but one side is larger than the other; surface smooth: *Stem*, rather large, about two thirds of an inch in length, swollen at the end adjoining the tree, curved, and inserted without any cavity, but having at the base a very slight projection (*petit mamelon*): *Eye*, small, nearly closed,

and placed in a shallow, compressed basin: *Skin*, fine, of a uniform color, very slightly tinted with red on the side next the sun, and regularly dotted with small gray and vermillion specks: *Flesh*, white, fine, and melting; juice abundant and sugary.

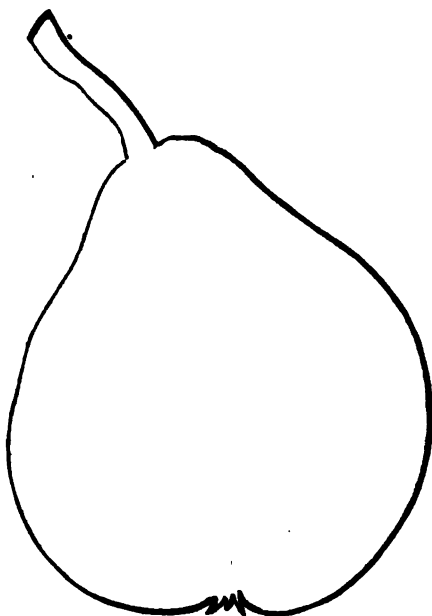


Fig. 23. Beurré de Bollwéiler.

Ripe in April and the commencement of May.

It is of the first quality, and assuredly the best at this period, when the Doyenné d'hiver (Easter Beurré) is gone. I have eaten this pear the 25th of April, when it was not the least shrivelled or deformed, and had all the freshness of an autumn pear. We believe this variety will prove one of the most superb table fruits.

ART. III. *Pomological Gossip.*

THE SEASON OF 1852.—So far, the present season promises to be one of the most favorable for the pear that has

been experienced for several years; and from present appearances the crop will not only be large, but exceedingly fine. We, certainly, have never seen them promise better: they have set well; they present a clean, healthy appearance, (barring occasional varieties); and the general aspect of the trees, as well as fruit, is far in advance of either of the three previous years. If anticipation can give any gratification to the pomologist, he may look forward to the greatest display which has ever yet been made of this first of fruits in this country. We trust our hopes will not meet with disappointment.

NEW PEARS.—The recent receipt of Mr. Rivers's Catalogue of Fruits for 1851, has placed us in possession of some information which we have not yet given to our readers. Making some allowance for errors, (for Mr. Rivers is not free from them, though his experience should have enabled him to detect a portion of those which his catalogue contains,) we glean the following memoranda concerning some of the newer pears:—

Albertine.—Large size, handsome, melting, very hardy; first quality. Succeeds as a pyramid on the quince. End of August.

Alexandre Bivort.—Medium size; a new hardy pear from the collection of the late M. Esperin. Flavor sugary, perfumed and exquisite; it literally melts in the mouth. Forms a fine pyramid on the quince. January.

Alexandre Lambre.—Medium size; a new hardy pear from the collection of the late Van Mons. Melting and excellent. Forms a prolific pyramid on the quince. December, and often to the end of March.

Baronne de Mello.—Medium size; a very good melting pear, equal to Brown Beurré, and quite hardy. Succeeds well on the quince, and forms a handsome pyramid. October.

Bergamotte Drôuet.—Medium size; a new late pear, which succeeds well on the quince and forms a fine pyramid, as its shoots are stout and fastigate. April and May.

Bergamotte Dussart, (Van Mons.)—Medium size; a melting and hardy winter pear, which succeeds on the quince and forms a prolific pyramid, but deserves a wall. April and May.

Beurré Benner.—Small size ; a new hardy, late, melting pear, from the collection of the late Van Mons. February.

Beurré Bretonneau, (Esperin).—Large size ; a new late pear of high excellence ; nearly or quite melting ; succeeds on the quince double worked, and forms a prolific pyramid, but deserves a wall in the north. May and June.

Beurré Duhaume.—Large size ; a new and excellent pear, melting and rich ; succeeds on the quince double worked. February.

Beurré Hammecher.—Large size ; a new hardy pear from Belgium, melting and excellent. Succeeds well as a pyramid on the quince. October.

Beurré Leon le Clerc.—Large size ; a new large, melting pear. November.

Beurré Navez, (Van Mons).—A new pear, described by Van Mons as "not a pear, but a skin filled with juice the most vinous and sugary it is possible to conceive." Sept.

Beurré Tuerlinckx.—Large size, or rather much beyond it, for it is an enormous pear, and though not first rate, yet is useful, as it is eatable nearly all winter. It is quite hardy, and succeeds on the quince. December to February.

Beurré Wetteren.—Large size ; a new and very hardy pear, from the collection of the late M. Esperin ; melting and excellent. First quality. February.

Beurré Winter, (Rivers's).—Large size ; a new pear, raised here from the Easter Beurré ; a rich, vinous, melting pear, very hardy, and succeeds on the quince double worked. February to March.

Blanc Per Né.—Large size ; a new melting pear, said to keep till May.

Bon Gustave, (Esperin).—Large size ; a new melting pear, hardy, and succeeds well on the quince as a pyramid. Dec.

Colmar Artoisonet.—Large size ; a very large, handsome pear, like Beurré Diel, but quite different in flavor. Nov.

Dr. Bouvier.—A large and good hardy, melting pear. Tree inclined to be thorny ; succeeds well on the quince double worked. February.

Dr. Capron, (Van Mons).—Medium size, melting, and hardy. In shape, like a Glout Morceau. November.

Duc de Nemours.—Medium size ; a new hardy, melting pear, which succeeds on the quince. December.

Grand Soliel, (Esperin).—Large size ; a new half melting, late pear, which succeeds well on the quince, requiring a warm soil and situation. December to March.

Lauré de Glymes.—Large size ; a new hardy, melting pear, from the collection of the late Van Mons ; succeeds well on the quince. October.

Marchal de Cour, (Van Mons).—Large size ; a new and fine pear. It was the expressed opinion of Van Mons, that "this was the best pear he ever raised." November.

Melon de Namur.—Large size ; a very fine and handsome pear, exceedingly juicy and agreeable ; succeeds on the quince, and bears well as a pyramid. August and September.

Poiré Pêche, (Esperin).—Large size ; an excellent melting, new autumn pear ; said to have the flavor of the peach. Succeeds on the quince double worked. October.

Pius IX.—Large size ; a new hardy pear from the collection of Van Mons ; melting, sugary, and highly perfumed without being musky. End of September,

Prevost.—Medium size ; another new hardy pear from the collection of Van Mons. Melting, sugary, and highly perfumed. December to March.

Zepherin Gregorie.—Medium size ; a new hardy, late, melting pear. March.

With few exceptions, Mr. Rivers puts them all down as *first quality*. Many of them will fruit in our collection the present year, and afford an opportunity to test their merits.

ART. IV. *Notes on Greenhouse Plants, Soil, Potting, Watering, &c., &c.* By HORTUS.

(Continued from page 215.)

WATERING.—A plant properly potted in good soil is so far under favorable conditions for healthy existence ; but if unskilfully or improperly watered, no other care that can be

bestowed will keep it in a healthy state. There is no single requisite in the management of plants of so much importance, or requires more skill and experience to perform aright, than this. It is a notorious fact that unskilful watering is *the* prevalent error in the culture of potted plants. Even among practical gardeners, so much is it considered a daily routine necessity to "water the plants," and often indiscriminately, without regard to their particular wants, that any one able to carry a pot of water is intrusted to do it. The results of this practice are too apparent in many collections. These daily dribblings only serve to keep vegetation in a state of suspense between death and life, as the supply is seldom copious enough to thoroughly moisten the whole mass of earth in the pot, consequently the roots nearest the surface are frequently soddened while the lower section are literally dry as dust. So much depends upon the natural constitution and state of the plant, the condition of the soil, the state of the atmosphere, and the season of the year, that it is impossible to lay down a special rule, equally adapted to all. We will, however, venture a few general remarks on the subject.

The importance and necessity of water to plants need not be dwelt upon, seeing that it enters so largely into their constitution, and being the medium through which they absorb their nourishment; but many collections are injured to a considerable degree by the bad quality of the water. An unfailing supply of rain-water should be a paramount question in building greenhouses. The water that falls on the roof, if collected in a suitable sized tank, will afford an abundant supply throughout the season. A brick tank, carefully cemented, of a capacity to hold 3000 gallons, will afford a constant supply for a house 50 feet long. This is most convenient when placed underneath the stage, and also keeps the water of a genial temperature. Many kinds of spring water are exceedingly injurious from the saline substances they contain, according to the nature of the soil through which the springs rise. When such is unavoidably used, it should be exposed to the atmosphere, at least, 48 hours previous to use. Water evaporated from the earth by the heat

of the sun, when cooled down and collected in the form of rain, has none of those impurities with which it is impregnated when filtered through the soil. On the contrary, it contains ammonia, carbonic acid, and other matters highly beneficial to vegetation.

We have very frequently been asked the question, "How often do you water your plants?" and our answer has as frequently been, *whenever they are dry*. Sometimes it may be twice a day, at others once a week. It is evident that no direct answer can be given to such a question. A plant newly potted requires less water than it did before, because there is a large amount of soil about the roots; as these extend, they suck up more moisture and occupy the pot; consequently the soil will sooner get dry, and when the roots get crowded, much more will still be necessary. During dull, damp weather, there is less perspiration by the leaves, and less absorption by the roots. Again, during bright sun and dry atmosphere, absorption is the most active; and that to a greater extent in plants presenting a broad surface of leaves, than in small-foliaged species. Hence the necessity of careful watering to heaths, epacris, and others of like habit, with small foliage and delicate roots. We are very much inclined to suspect that this is the principal reason why these and others of the most beautiful hard-wooded exotics are so seldom found in greenhouses. The application of water, rightly understood, is the most powerful controlling influence we possess over vegetable growth. By limiting the supply, we can produce a state of rest, hasten the development of flowers, the ripening of fruit, and, other things being equal, these conditions are reversed by a bountiful supply.

With regard to the proper time for watering plants, the general practice is to water in the morning or early part of the day during the winter season, and in the afternoon or evening during summer. In cold weather, early watering allows excess of moisture to evaporate before evening; hence the plants are better enabled to withstand moderate cold. When artificial heat is in constant requisition, a certain

amount of moisture is necessary to counteract the aridity of the heating apparatus. Plants suffer much from the drying nature of the heat in severe weather. In summer, evening watering may be beneficial in cooling the system and inducing temporary repose, after the excessive heat of day. We have an indistinct recollection of reading a paper by the late Andrew Knight, on this subject, where he stated his opinion in favor of syringing with very cold water towards evening. Our own experience, after many trials of different methods, has induced us to adopt morning watering at all seasons. By using water freely about the house in the early part of a hot day, the atmosphere becomes charged with moisture, and the house is much easier kept cool and agreeable during the remaining portion of the day. Towards evening the syringe can be used in distributing water on the floor and all vacant places of the house, and also on all plants not in flower. The same treatment is practised in winter only when artificial heat is in requisition; otherwise, the drier the air, the less danger from cold.

Independent of the physical advantages of early watering, there are chemical changes connected with the practice, which we think are not sufficiently understood or recognized. Plants are constantly extracting moisture from the soil by the roots, and parting with it by the leaves. The leaves, when exposed to the action of light, decompose carbonic acid, ammonia, and other matters present in the soil, from which organic matter is formed. The amount of water taken up by the roots varies with the moisture in the soil, the state of the atmosphere, and the species of plant. During hot, dry nights, much watery vapor is parted with by the leaves. It is evident, therefore, that the moisture given off at night, carries with it a considerable amount of gaseous matter collected from the soil, without benefit to the plant, since the presence of light is necessary to the performance of those chemical functions which digest and retain the substances required to develop and extend the structure of plants. Hence we may consider the above as an important argument in favor of early watering.

Under certain conditions, much may be gained in the growth of plants by judicious application of liquid manure. It should only be given to those in robust health. If applied to sickly subjects it hastens their decay. Great caution is necessary in using stimulants; and those that cannot manage plants well, otherwise, will probably gain nothing from their use. Clean, diluted manure water may be advantageously used, during the growing season, to large plants that have filled their allotted space with roots, and cannot be conveniently removed. The blooming season is also lengthened, and the development of seed enhanced, by its use.

- In reading articles on the cultivation of plants, we frequently notice the recommendation of gradually diminishing the quantity of water at certain seasons. This is apt to mislead, inasmuch as we have observed a mere sprinkling on the surface is considered sufficient in such cases. Every time a plant is watered, it should receive enough to allow a surplus escape from the bottom of the pot. If a plant is to be gradually dried off, let the applications be less frequent. It only deceives the eye to keep sprinkling on the surface, and no plant will long survive such treatment.

June, 1852.

(To be continued.)

ART. V. *Window Greenhouses.* From Turner's Florist.

Nothing can be a greater source of pleasure to the real lover of flowers, especially if a resident of the city, than a well-cultivated and healthy collection of window plants. They wear away the long and dreary winter of our northern clime, and serve to beguile many a passing hour between the close of autumn and the dawn of spring.

Cowper, in *The Task*, thus happily describes the love of window flowers :

“ They serve him with a hint
That nature lives ; that sight refreshing green
Is still the livery she delights to wear,
Though sickly samples of the exuberant whole.”

With proper care and attention, plants may be most successfully grown in rooms or parlors: we say with care,—but we do not mean with too much care,—for we believe that more plants are ruined with too much attention than too little. A few leading principles understood, nothing can be more simple than the treatment of window plants, as the article we annex will show.

We have, in a previous volume, (VII, p. 214,) given an article on the culture of the camellia in parlors, a plant usually found very difficult of management. But Dr. Gunnell not only grew them well, but flowered them beautifully. The pelargonium is one of the best of parlor plants, and the success of the writer shows what can be done with proper treatment. Many other things may be had in fine condition by following the rules now laid down.

A reference to our volume above quoted, will show that the writer uses *precisely the same kind* of stage or table as Dr. Gunnell, only that he has a tier of shelves upon which the plants are arranged, so that the water may fall upon the table.

In conclusion, we need only urge attention to the rules laid down; if they are attended to, their management will be simple, and success certain:—

You ask me the particulars of my “window greenhouse,” in which, as I have been sufficiently successful not only to please myself, but to have imitators because of that success, I have great pleasure in telling you,—no, not you, but your readers,—how I manage matters. I had last season about 900 blossoms on 35 plants, and as I am not aware that the care of them took up time that ought to have been otherwise employed, and was a pleasure all through the year as well as in the blooming season, I really should be glad to see the system more general. I cannot promise that all shall succeed who may try it, but I think I can show that those who do not may charge themselves with their failure.

Probably most of your readers have occasionally noticed a most flourishing tree, covered with healthy blossoms, in an

old broken teapot in some cottage window ; and some may have thence inferred the uselessness of care and science in the treatment of plants. I do not draw that conclusion from the fact. For look at that sickly thing in the next window to it. How much better and healthier the flowers look in the one window than the other ! And yet the houses are built on the same plan, and stand next to one another ; and therefore the inference I should draw is, that there is a right way and a wrong way of growing flowers ; and, further, that a person who uses the right, will succeed under great apparent disadvantages. And a closer inspection always shows the difference to be in the person and not in the place, and that such persons rarely spend much time or pains upon their pets, and yet everything seems to succeed with them : it is plain that those who will follow their example will make their window plants flourish as well as theirs do. And this is so true, that if a person will not make up his mind to act upon the right system when he knows it, I cannot recommend him to keep plants in-doors, many or few, unless for the wholesome discipline of disappointment.

Now I believe, sir, you will agree with me, that the right system for plants, as for children, is the natural system ; and that nostrums, and secrets, and tricks, are, for the most part, not only pernicious but silly. As a general rule, and under similar circumstances, what will grow a good cabbage will grow a good pelargonium or fuchsia. And that the apparent departures from this rule are only examples of it, and depend on common-sense reasons drawn from the nature of the original climate of the species of plant.

And the natural system may be comprised under two heads : 1, not to *let* your plants suffer by neglect ; 2, nor to *make* them suffer by interference. If many people let them dwindle or die by forgetting to water them at proper times, or to shelter them from excess of sun or of cold, others, not less numerous, think their flowers can never be thriving unless themselves are doing something to make them thrive. And so they bring them to their end, or to pale, sickly, scraggy things on stilts, that can never repay their owner for the trouble of rearing them.

The application of this system to the culture of the pelargonium is somewhat hazardous of the charge of presumption in such a person as myself, because I suppose you have already given directions for that in some of the numbers of *The Florist* I have been so unfortunate as not to see; and anything I were to say on the subject that you have already said would be superfluous, and what might differ from your instructions, I am persuaded would be erroneous. Only I would repeat, that any person who will use common sense and common care, may succeed in the culture of any of our ordinary fancy flowers.

Of these, by much the most useful for a window, and which I expect will always retain its place in this respect, is the pelargonium; and, as I have no room to spare, I confine myself to this. You will believe I have no spare room when I tell you I am a curate, with a family of eight grown-up persons, in latitude $53^{\circ} 29' 30''$ on the Greenwich meridian, in an agricultural village that has no house in it larger than a cottage, and mine is no way remarkable among its fellows, of which it is far from being the largest. Yet, without any other convenience than a cottage window, I grow, in very creditable condition, about thirty varieties (a plant of each) of the best pelargoniums: enough to make my room a blaze of beauty during the whole blooming season.

Now, on the supposition that my thirty plants are established in their pots, and hardened afterwards in the open air, and that it is time to bring them in-doors, (this year it was on or about old Michaelmas-day I housed them,) I will tell you where I put them, and how I treat them when there.

I have no south or south-east window in the house: the aspect is south-west; but there is a small room in the front, of which, as it is my dressing room, I can appropriate the whole window to my plants. And I have done it in this way, in order to make the small space hold as many pots, give them as much light, and bring them as close to the glass, as possible. The glass of the window is 3 feet 9 inches broad, and of a proportionate height. This, therefore, is the breadth of the stand I had made in the ordinary way,

but as light as possible, and with six shelves, channelled along the middle for the water to run out of the pots. As the plants are of all sizes, and more of them small than large, the four lower shelves are 4, the fifth 5, and the sixth 6 inches broad; the bottom one 3, the rest 4 inches high, which, with 3 inches allowed for standing in its pan, make the entire height 2 feet 2 inches.

This frame stands in a water-tight wooden pan, 3 feet 10 inches long by 2 feet 4 inches broad, and 3 inches deep, with a hole and plug in one corner to let off the water, so that I can water my plants as freely as I like without wetting the room or making a mess. The whole stands on two three-legged tressles, and the waterpot is kept underneath, so that the water shall be always of the same temperature as the room, a point I have found to be of great importance to the well-being of the plants.

This stand, painted, cost 15s. And as I began collecting gradually, bought but few, and exchanged with friends, I had a very good collection before I had spent £2 upon my hobby. Since then I have been more expensive, as I will not keep any but first-rate varieties, and unhesitatingly condemn a flower that displeases me, whatever its price in the market. Yet I believe I may challenge any other hobby, far less useful or ornamental than this, on the subject of cost. Careful as I am bound to be of my expenses, I should expect an acquittal from the charge of extravagance even from those who do not partake of the taste for these things. And I am sure that the pleasure and the *profit* have amply repaid my little outlay; for profitable it is. Anything that decorates home, and concentrates a man's amusements and attractions round his own hearth, and unites the rest of his family with him in them, is an avoidance of expense to him, and is worthy of encouragement as a benefit to society. And among these things, gardening, within legitimate bounds, has always deservedly held a high place. And in this I am sure "window gardening" may fairly claim its little modicum of praise, as being least liable to abuse; unless, indeed, the bedroom be made, as I have sometimes seen it, the depository of plants, for then they are really injurious to health.

When my plants are on the stand, I do not find they *require* looking to every day, though even if they did, their wants are so few, and so easily supplied, that it would be but little trouble.

1. Light is their greatest and invariable requisite ; and this is the chief difficulty to give them in a sash window when there is more than one row of them. A short and simple rule will, however, lessen much of the difficulty ; for they require light *in proportion to the rapidity of their growth*. Consequently the back rows, as having least light, should be kept driest, in order that they may grow slowest ; and when they show a tendency to throw out too long leaf-stalks, they should be stinted in water and placed nearer the window. Also, when they bend forwards, it is a proof that they are having too much water in proportion to their distance from the glass.

2. They want air, and therefore I generally open the window once a day, even in the winter's frost ; but I do not think it so necessary as is by many supposed. It seems to be of more service in keeping the temperature of the room equable than for the admission of fresh air. When the wind is in the east it almost always hurts them ; and a thorough draught, of which many persons are far too careless, is especially to be eschewed. But I have seen a plant in the window of a farmhouse, and of a very ordinary kind, (Lord Mayor,) which, for growth, number and perfection of blooms, and striking general appearance, would have deservedly attracted attention on a field-day at Chiswick. Yet this plant had never had a breath of fresh air for six months.

3. My impression about water is, that professional florists are too much afraid of it. If a plant is close to the window, the rapid growth caused by superabundant water is not always a loss, nor does it always deteriorate the soil in the pot so much as is supposed. In cottage windows plants often thrive, grow stout, bloom profusely, and with blooms in truest shape and color, though standing, and having stood, in saucers of water for weeks or months. My cuttings, if well rooted, I always set in pans of water, even in the autumn, till they

are as large as I wish them to be before the winter, taking care to place them in the window itself while they are so treated. Even the green moss on the mould and round the pot, unsightly as it is, and betokening slovenliness, (and therefore I never suffer it myself,) I fear is slandered when said to kill the plant. At least, I have seen a plant perform very well for years, though covered with it. Don't be talked out of your saucer of water, Mrs. Wilkins, when they tell you you will drown your Geranium, and that the air cannot circulate about the roots if you keep it so. *There is air in the water*; and you do not wash away the goodness from the mould half so much as by watering it from the top, and letting the superfluous water run off and carry the strength of the soil with it. Only remember, you are "tendering" your plant, and that it is more likely to be touched with the frost or to grow "leggy." I believe I have gained by giving my plants more water than my neighbors do. One winter (it was a very mild one, and the plants were growing slowly all through it) I watered them freely with a rose over the leaves, and never had them stronger or healthier. From seeing its evil effects elsewhere, I do not think I shall do so again, but I am glad, for the experiment's sake, I did it then, though I did it merely in ignorance that it is dangerous, and not for the purpose of experiment.

4. Respecting artificial heat, I have never yet needed a fire for them. It is true, the room is between two others, and so has no outside wall but the window front. If the frost is only moderate, I draw a green baize curtain between them and the window; if severe, I draw two; if a "*Murphy's*" frost occurs, I shall *burn a lamp*. Even one small lamp in a small room makes a considerable difference in the temperature.

5. If any need larger pots before they flower, I am careful not to break the ball of earth, nor do I ever disturb the roots except at the September repotting, when I give them plenty of drainage and a compost of black heath sand, rotted turf, and *completely decayed* stable manure, in equal parts.

In all this there is very little expenditure of time, trouble,

or money; and the elegance and harmlessness of the pleasure obtained is an ample recompense for what is incurred. Besides, I have the satisfaction of replacing the rubbish often nurtured in the cottage windows of my neighborhood with similar objects of a kind more worthy of the attention bestowed upon them. And I confess I am one who takes as much delight in seeing a fine flower in a neighbor's window as in my own.

ART. VI. *Floricultural and Botanical Notices of New and Beautiful Plants, figured in Foreign Periodicals; with descriptions of those introduced to, or originated in, American Collections.*

NEW PELARGONIUMS.—The pelargoniums of recent introduction, new varieties of 1850, '51, are great improvements on this already most beautiful plant. For some few years Mr. Beck carried all before him in the growth of seedlings, and took the first prize at all the principal shows; some of his later seedlings are yet the most desirable sorts for a prize stand; but taking his collection together it is now eclipsed by those of Messrs. Hoyle and Foster.

The May exhibitions of the London Horticultural Society at Chiswick, and the Royal Botanic at Regents' Park, were especially rich in new and splendid pelargoniums, and the stands of both nurserymen and amateurs contained some most superb varieties, which attracted much attention. We give the names of the sorts in Mr. Turner's collections which took the first prizes, both show and fancy.

Show Pelargoniums.—Mochanna, Pulchra, Gulielma, Pride of the Isles, Magnificent, Virgin Queen, Constance, Magnet, Ajax, Rosamond, Chieftain and Rowena.

Fancy.—Minerva, Perfection, Reine des Francais, Hero of Surrey, Statinskii, and Fairy Queen.

These were first at the Chiswick Show.

Show Varieties.—Magnet, Mochanna, Prince of Orange,

Ajax, Chieftain, Chloe, Magnificent, Pride of the Isles, Constance, Rosamond, Little Nell and Alonzo.

Fancy.—Hero of Surrey, Reine des Francais, Minerva, Carlotti Grisi, Fairy Queen, and Empress.

These were first at Regents' Park.

Several of the fine sorts have been in flower in our collection, and we add descriptions of the show varieties:—

Ajax, (Hoyle's) lower petals rosy purple, top petals dark purple, with margin of rich crimson; free bloomer and good habit.

Beauty of Montpelier, (Rendle's) lower petals bright pink, white centre, rich velvety crimson maroon spot in upper petals.

Brilliant, (Topping's) deep rich superb color; very attractive.

Flavia, (Hoyle's) bright orange scarlet, the finest color of the kind.

Gaiety, (Foster's) bright salmon, bright crimson blotch in each petal.

Major Domo, (Beck's) large rose-colored flower, with dark clouded top petals.

May Queen, (Hoyle's) orange rose-top petals, crimson blotch, shaded off with orange, the five petals have a delicate margin of pale pink; lower petals vivid rose, large well defined eye; a large, distinct, superb and free blooming sort.

Mount Hecla, (Gaines's) brilliant scarlet with crimson spot.

Ocellatum, (Hoyle's) lower petals bright pink with a distinct and constant spot of deep crimson; top petals deep crimson spot, shaded off with bright rose, white eye; a novel and striking flower.

Prince Arthur, (Pontey's) dark clouded blotch shaded off to flesh; lower petals flesh color; centre white.

Salamander, (Gaines's) fine orange scarlet crimson.

Tyrian Queen, (Beck) mulberry top petals; very distinct variety.

Several other new ones have not yet bloomed sufficiently strong to give a description of their colors.

VERONICA ANDERSONI.—A fine specimen of this pretty variety was exhibited at the hall of the Massachusetts Horticul-

tural Society by A. Bowditch. It was well grown, and had some thirty heads of flowers fully open. It is somewhat the color of *speciosa*, but paler, and has the habit of *V. Lindleyana*. It is a fine addition to any collection.

NEW HELIOTROPES.—We have already noticed some of the new heliotropes; quite a number of new ones have been produced by the French and Belgian florists, varying considerably in habit, color of the flowers, and fragrance. Upwards of *twenty* kinds are enumerated in some of the catalogues. The most distinct are Louis Napoleon, Constance, Albicans, Perfection, (very dwarf,) Picciola, and Voltairanum nanum.

The following we have already in flower:—

Corymbosum.—Close, compact, dwarf, bushy habit; larger corolla than the old sorts, highly scented, and fine for pots and bedding out.

Gem.—Deep blue purple, with white centre; compact habit, and free bloomer; very fragrant; and dwarf.

Lilacina.—Lilac; fine large truss; free bloomer; very sweet scented; good growth.

Reptans.—Fine dwarf habit; an abundant bloomer; and good color.

BOUVARDIA LEIANTHA.—All the Bouvardias are pretty plants, and admirably adapted for bedding out in summer, when they display their flowers in abundance. *B. leiantha* is a new species, and is said to be one of the finest and most distinct, with beautiful orange-scarlet flowers, well suited for either the greenhouse or flower garden. It has a better foliage than either *flava* or *tryphylla*.

HOYA BE'LLA.—This lovely species of the wax flower, which has been noticed by us, (Vol. XVI, p. 224,) is decidedly the finest of the several species. A small plant in our collection is now showing several clusters of its "silver and garnet" flowers. It requires a high temperature to grow it successfully, but its beauty amply repays all the care and expense necessary to bring it into flower.

STEPHANOTUS OBLISII.—A new variety is offered for sale by the London nurserymen, under this name, at the high

price of £5 5s. ; but no description is given of the flowers. If new and distinct in color, it will be a great acquisition.

MR. FORTUNE'S WANDERINGS IN CHINA.—Mr. Fortune has recently published an account of his Tour in China, in search of new plants, &c. It is said to be a most interesting work ; not having yet seen it, we extract the following notice of it from the *Gardeners' Chronicle* :—

At last the mystery of the Yellow Camellia is solved, and we may finally make up our minds that De Candolle's theory of colors is valueless. It was an ingenious idea to divide all plants between one or the other of two series ; the xanthic, or yellow species, never passing into blues ; and the cyanic, or blue species, never passing into yellow. But the exceptions prove too many for the rule ; and we must not be startled at a blue Dahlia, although the Dahlia is xanthic, since we have a yellow Camellia, although the Camellia is cyanic. Mr. Fortune, in his very instructive work on the Tea Countries of China, just published, saw this remarkable variety, of which he gives the following account :—

“Those who have read my ‘Wanderings in China’ may remember a story I told of my endeavors to find a yellow Camellia,—how I offered five dollars for one,—how a Chinaman soon found two instead of one,—and how he got the money and I got taken in.

“In one of these nurseries, however, I found a yellow Camellia, and it was in bloom when I bought it. It is certainly a most curious plant, although not very handsome. The flowers belong to the Anemone or Warratah class ; the outer petals are of a French white, and the inner ones are of a Primrose yellow. It appears to be a very distinct species in foliage, and may probably turn out more hardy than any of its race.”

To all lovers of horticulture, the work from which this is an extract, is indispensable, for it abounds in interesting details respecting, not merely the novelties met with by the enterprising traveller, but many of the now common favorites in our gardens. The passages which relate to some of them cannot be brought too soon under the notice of our readers.

Of the *Funereal Cypress* he gives the following account:—

“The most beautiful tree found in this district is a species of weeping Cypress, which I had never met with in any other part of China, and which was quite new to me. It was during one of my daily rambles that I saw the first specimen. About half a mile distant from where I was, I observed a noble looking Fir tree, about 60 feet in height, having a stem as straight as the Norfolk Island Pine, and weeping branches like the Willow of St. Helena. Its branches grew at first at right angles to the main stem, then described a graceful curve upwards, and bent again at their points. From these main branches others long and slender hung down perpendicularly, and gave the whole tree a weeping and graceful form. It reminded me of some of those large and gorgeous chandeliers, sometimes seen in theatres and public halls in Europe.”

The gardeners at Shanghae seem to set an example of skill which some of our own people would do well to imitate. In the midst of winter, in as bad a climate as that of London, the flower shops were gaily filled:—

“I was not previously aware that the practice of forcing flowers was common in China. Many plants of *Magnolia purpurea* were in full flower; as were also many kinds of double-blossomed Peaches, the pretty little *Prunus sinensis alba*, and a variety of Camellias. But what struck me as most remarkable was the facility with which the Moutan Pæony had been brought into full bloom. Several varieties of this plant were in full flower; and at this season of the year, when everything out of doors was cold and dreary, they had a most lively effect. Their blooms were tied up, to keep them from expanding too rapidly. All these things had been brought from the celebrated city of Soo-chow-foo, the great emporium of Chinese fashion and luxury.

“It may be thought that the Chinese have glass houses, hot-water pipes, and all those fine things which assist gardeners and amateurs in Europe. Nothing of the kind; they do all these things in their houses and sheds, with common charcoal fires, and a quantity of straw to stop up the crevices in the doors and windows.

"At this season of the year the 'Kum-quat,' (*Citrus japonica*,) which is extensively grown in pots, is literally covered with its small, oval, orange-colored fruit. This, as well as various other species of the Orange, is mixed with the forced flowers, and together produce an excellent effect. I think if the 'Kum-quat' was better known at home it would be highly prized for decorative purposes during the winter months. It is much more hardy than any other of its tribe; it produces its flowers and fruit in great abundance, and it would doubtless prove a plant of easy cultivation. In order, however, to succeed with it as well as the Chinese do, one little fact should be kept in view, namely, that all the plants of the Orange tribe which bear fruit in a small state are grafted."

Of the management of the *Chrysanthemum* we have excellent practical details:—

"The method of cultivating the *Chrysanthemum* in China is as follows:—Cuttings are struck every year from the young shoots, in the same manner as we do in England. When they are rooted they are potted off at once into the pots in which they are to grow and bloom; that is, they are grown upon what would be called by our gardeners 'the one-shift system.'

"The soil used in potting is of a very rich description. About Canton it is generally obtained, in the first instance, from the bottom of lakes or ponds, where the *Nelumbium* or Water-lily grows. It is then laid up to dry and pulverise for some months, when it is mixed with old night-soil taken from the manure tanks found in every garden. A heap of this kind, after being laid up for some time and frequently turned over, is in a fit state for potting the *Chrysanthemum*. Manure water, taken also from the tanks, is liberally supplied during the growing season, and its effects are visible in the luxuriant dark-green leaves which cover the plants.

"In forming the plants into nice compact bushes, which, with due deference to Chinese taste, I think much prettier than animals and 'seven-storied pagodas,' their system is as follows:—The plants are trained each with a single stem;

this is forced to send out numerous laterals near its base, and these are tied down in a neat and regular manner with strings of silk thread. By having the plants clothed with branches in this way, and by keeping the leaves in a green and healthy state, the specimens never have that bare and broom-headed appearance which they often present in England when they are taken into the greenhouse in winter.

"About Shanghae and Ning-po, the *Chrysanthemum* is still better managed than it is near Canton; but the success which attends it may be attributed, partly at least, to the more favorable nature of the climate, the plant being indigenous to the central or more northern parts of the empire. The system of cultivation is nearly the same; the main points attended to being those which have been noticed, namely, choosing a rich soil, planting at once into large pots, training to a single stem, and inducing it to send out numerous laterals, and giving liberal supplies of manure water during the growing season. The Chinese are fond of having very large blooms, and, in order to obtain these, they generally pick off all the small flower buds."

Here is a graphic description of a *Cryptomeria*, from which we may judge what it ought to become among ourselves:—

"Never in my life had I seen such a view as this, so grand, so sublime. High ranges of mountains were towering on my right and on my left, while before me, as far as the eye could reach, the whole country seemed broken up into mountains and hills of all heights, with peaks of every form.

"While gazing with wonder and admiration on the scene, my attention was arrested by a solitary Pine-tree of great size, standing about a hundred yards from the gateway. No other trees of any size were near it. Its solitary position near the pass, and its great height and beautiful symmetry, made it appear a most striking object. 'What could it be? was it new, or did we already possess it in England?' I must confess that for a few seconds I had eyes for nothing else. Chairs, coolies, and mountains, were all forgotten, and I believe, had the guard of Celestials attempted to prevent me from going into Fokien, the only boon I should have asked

at their hands would have been to be allowed to go and inspect this noble Pine.

"The Chinese guard, however, had not the slightest intention of interfering with my movements, and, as the tree was on the roadside, I soon came up to it, and found it to be the Japan Cedar, (*Cryptomeria japonica*,) a tree which I had already introduced into England, and which, even in a young state, had been greatly admired there. I had never before seen such a noble specimen, and, although I would rather it had been something new, I yet felt proud of having been the means of introducing into Europe a tree of such size, symmetry, and beauty. It was at least 120 feet in height,—it might be much more,—as straight as a larch, and had its lower branches drooping to the ground. It had not been 'lopped,' like other Chinese trees, and was evidently preserved with great care. My Chinamen looked upon it with great admiration, and informed me it was the only specimen of the kind in this part of the country, and that it had been planted by some former emperor when he crossed the mountains."

Cunninghamia lanceolata would seem to be a much finer thing than in this country it is believed to be :—

"The sides of the mountains here were clothed with dense woods of the lance-leaved Pine, (*Cunninghamia lanceolata*.) This was the first time I had seen this Fir tree of sufficient size to render it of value for its timber. Many of the specimens were at least 80 feet in height, and perfectly straight. There was a richness too in the appearance of its foliage which I had never seen before ; sometimes it was of a deep green color, while at others it was of a bluish tint. There are, doubtless, many varieties of this tree amongst these hills."

But we must close our extracts from Mr. Fortune's book. Upon the main object of it, namely, the character of the Tea countries of China, and the Tea plantations of India, and upon the able manner in which the author executed a delicate and somewhat dangerous task, we shall have something to say next week.

NEW FRENCH VERBENAS.—The French cultivators excel the English in the production of new verbenas. *Reine du Jour*,

Morphé, Iphigene, and others, were great improvements over the previous kinds. With the ardor with which the French florists pursue their profession, they do not stop until they have achieved something new; and the recent seedlings are said to be exceedingly fine, distinct, and new in color. A correspondent in New York writes us that, "in point of color, and ball-like form, as well as in undivided form, they are the best I have seen, except Mrs. Mills, which is one yet unrivalled, the color being so superbly rich blue purple. Among the best are Gen. Courtiges, Macrantha, and Marianne."

The following are the descriptions of a few of these new ones which have been introduced into our collections by Mr. J. E. Rauch, and E. J. Tryon, New York:—

Alboni,—(Thibauts,) blush white, crimson centre, good habit, fine.

Cornelia,—White, large violet purple centre, good habit and truss.

Fadette,—(Mielliez,) blush white, with dark violet eye, distinct and fine.

General Courtiges,—Orange scarlet, very large yellow eye and centre.

Marianne,—(Chauviere's,) violet rose, mottled with purple, crimson eye, fine form and habit, extra fine.

Macrantha,—(Nivert's,) fine rose, dark centre.

Montana,—Crimson velvet, truss and form good, strong grower.

Parfum Madeline,—(Defosse,) white, splashed with lavender, violet centre.

178. *MEDINILLA SIEBOLDIA'NA* *Planch.* SIEBOLD'S MEDINILLA. (Melastomaceæ.) Molucca.

A stove plant; growing three feet high; with pale rose colored flowers; appearing in spring; cultivated in leaf mould, loam and sand. *Bot. Reg.*, 1852, pl. 4650.

This is another of the *Medinillas* which have recently attracted so much attention. "It forms a handsome shrub, with large dark green leaves, and drooping racemes of waxy rose-colored flowers, having dark purple anthers." It was introduced into Belgium by M. Van Houtte, and from thence into England. It requires the heat of a stove to grow it in perfection. (*Bot. Mag.*, June.)

179. *BRACHYSEMA LANCEOLATUM* Meisn. LANCE-LEAVED
BRACHYSEMA. (Leguminosæ.) Swan River.

A greenhouse shrub ; growing two feet high ; with scarlet flowers ; appearing in spring ; cultivated in heath soil and leaf mould ; increased by cuttings. *Bot. Mag.*, 1852, pl. 4632.

A handsome species of this somewhat singular tribe, with rich scarlet flowers, which appear in clusters at the base of the leaves. "Its beauty is enhanced by the good sized, almost polished, leaves,—dark green above, beautifully silky beneath." It is a native of Swan River, and was raised from seeds sent home by Mr. Drummond, in the collection of Lucombe, Prince, & Co., of Exeter, where it first flowered in February last. (*Bot. Mag.*, June.)

180. *ACA'CIA CYCNO'RUM* Benth. SWAN RIVER ACACIA.
ACA'CIA. (Leguminosæ.) Swan River.

A greenhouse shrub ; growing two feet high ; with yellow flowers ; appearing in winter ; cultivated in light rich soil ; increased by cuttings and seeds. *Bot. Reg.*, 1852, pl. 4633.

A very neat and handsome Acacia, nearly allied to *A. pulchella*, having the same small bipinnate foliage and axillary flowers, of a deep rich yellow, deserving a place in every greenhouse or conservatory. It was raised from seeds in the Exeter nursery, where it first flowered last April. It is an inhabitant of the Swan River Settlement, where it appears to be common. (*Bot. Reg.*, June.)

181. *PODOCA'RPUS NERIFO'LIA* Don. OLEANDER-LEAVED
PODOCARPUS. (Taxinææ.) Nepaul.

A greenhouse shrub ; growing seven feet high ; with red fruit ; cultivated in light soil. *Bot. Reg.*, 1852, pl. 4635.

"A good sized greenhouse shrub or small tree, with very copious, dense, evergreen foliage, and in a state of fruit really handsome, from the copious, purplish-red fleshy receptacles of the seeds, which are produced in the winter months." It seems to be a mountain plant, and may prove hardy enough for the climate of England, and probably a half hardy shrub with us.

It is a showy looking shrub, and will form a fine object for winter decoration of the cold greenhouse or vestibule, and from its dense, green foliage, an ornamental verandah plant at all times. (*Bot. Mag.*, June.)

REVIEWS.

ART. I. *The Philadelphia Florist and Horticultural Journal: a Magazine of Horticulture, Botany, Agriculture, and the Kindred Sciences.* Conducted by a Committee of Practical Gardeners. R. ROBINSON SCOTT, Editor. Monthly nos., 8vo, 32 pp., and a colored plate. Nos. 1 and 2 for May and June.

A GAY looking periodical, with the *Victoria régia* displaying its huge petals on the nice yellow cover, called by the above title, has been issued by our Philadelphia friends, conducted by an association of practical men. Two numbers, May and June, are now before us; one ornamented with a colored lithograph of the beautiful *Dicentra spectabilis*, and the other with one of the *Nepenthes Rafflesiana*.

The committee in their "apologetic" address state, as one of the reasons why the Philadelphia amateurs and florists need a journal of this kind, "that they require an organ strictly local, the exponent of their wants, that depend upon latitude and longitude, and the peculiarities of the season."

The Editor thinks that the *Horticulturist*, and our *Magazine*, will do very well for the north; but there is so much difference between Albany and Philadelphia, the former city being "earlier and later by just one lunar month," and as "the same exotics cannot be raised in the two places, or require a totally different treatment," it is necessary that the florists should have a journal of the kind; as they were "literally alone between Albany and New Orleans."

If this is really the truth, why we are doubly pleased to announce its appearance. We hail every new publication of the kind, as another laborer in the field where there is plenty to do and enough to gather up. For if the *Florist*, at the cost of one dollar, teaches an amateur how to garden more successfully, why of course he will find that two, paid for our *Magazine*, will increase his success in an equal ratio. If an earnest, zealous lover of horticulture, one magazine would

be like confining him to the culture of one kind of plants. No, he wants all the information he can get, whether from the north, or south, or west, and he is only to be pitied if his organ of locality don't extend north of Philadelphia. There are plenty of good reasons why such a journal should be published and well supported, without attributing it to such sectional causes.

The work is neatly got up, and contains some good articles. Among the contributors we find some of our own correspondents. We wish the *FLORIST* every success.

ART. II. *The Culture of the Grape, and Wine Making.*

By ROBERT BUCHANAN: *with an Appendix, containing Directions for the Cultivation of the Strawberry.* By N. LONGWORTH. 1 vol. 12mo., pp. 142. Cincinnati, 1852.

THIS is a second edition, somewhat enlarged, of a work we have already noticed, (Vol. XII, p. 355.) The "first edition having been soon exhausted, a second one has been called for, and the task has been cheerfully undertaken with a view to add such information as may have been acquired during the last two years, on this so favorite a subject with the author."

To grape growers in the west, it will prove an interesting volume.

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

THE *FUCHSIA*.—This genus now contains an immense number of varieties, many of which are worthy of being ranked with our finest ornamental plants. All flower very profusely, remain long in perfection, and all are of comparatively easy culture. Most of the varieties may be readily induced to make strong vigorous growth during the winter and spring months, but they have a natural tendency to produce bloom towards June, after which time it is nearly impossible to excite them to active growth. Large, well-formed specimens are more easily grown from cuttings than from old cut

back plants,—these come in very useful for autumn flowering; but the symmetrical form, luxuriant foliage, and increased display of blossoms, which young plants furnish, when properly managed, can hardly be expected from old plants. Cuttings, destined to form large specimens during one season's growth, should be selected about the end of July; rather firm pieces of the young wood should be chosen, and, if possible, that which shows no indication of flowering. Let them be planted in light sandy soil, and placed in a shady situation where the temperature will be but a few degrees higher than that in which the plants from which they were obtained were growing; and as nothing is so efficient in checking a premature production of flower as a uniformly moist atmosphere, this should be secured by covering with a bell glass.

As soon as the cuttings are sufficiently rooted to bear handling, pot them singly in 4-inch pots, and keep them close and moist, until they are fully established. A temperature of about 45° at night to 50° or 55° during the day, will be sufficient during winter; and if kept free from insects, and allowed pot room, and properly supplied with water and a moist growing atmosphere, their progress will be very rapid. But it is probable that some of the plants, especially the weakly growing varieties, will, despite of every precaution, prove more inclined to flower than to make strong rapid growth. Such had better be set aside, as there is but little chance of their forming large handsome specimens; and I need not say that this casualty should be provided for, by rooting and preparing a sufficiency of plants from which to select the most promising of each variety. The plants should be strong vigorous examples, in 8 or 9-inch pots, ready for a final shift in March. The size of the pots to be used must be regulated by the habit of the variety. The stronger growers, if properly managed, will fill 18-inch pots; while 12 or 15-inch ones will be sufficiently large for others. Keep the plants rather close after shifting, in order to encourage root action; syringe over-head freely, and keep the atmosphere moist, but water very carefully till the growth indicates that they have taken to the fresh soil. Beginners should be especially careful in this respect, as it is easy either to over or under water after a large shift. When the plants appear to have laid hold of the fresh soil, admit air freely whenever the temperature arises above 60° , but shut up early in the afternoon; syringe over-head, and keep the atmosphere as moist as possible by sprinkling the floors, &c., frequently during the day. Clear manure water should be used as soon as it is supposed that the pots are moderately well filled with roots. When the sun becomes powerful use a thin shade on the forenoons of bright days, but apply this sparingly, and afford the plants all the light possible, without subjecting them to the direct rays of a mid-day sun.

Some attention will be requisite to secure the desired form of plant. If the pyramidal shape is preferred, (and it is the best, as it is most in accordance with the habit of the plant,) a stake for the support of the leading shoot, and a timely and systematic stopping of any over luxuriant side branches, are all that will be required until the shoots become loaded with blossom, when a few strips of matting or soft string so tied to the stake

and side branches as to preserve the symmetry of the specimen, may be found necessary. Some growers stop their plants once or twice after they are fully grown and showing flower; this causes them to break back, greatly adds to the number of shoots, and of course to the display of blossom, but plants treated in this way do not continue so long in beauty.

A cool airy shady house is the proper situation for the plants while in blossom, and during this time they should be liberally supplied with manure water and carefully guarded against attacks of insects. The weaker growers are rather subject to red spider, and all the sorts to thrips; but if insects are kept under during the growing season, and the plants are perfectly clean when placed in the show-house, there will be little to apprehend in this respect. When the beauty of the plants is over, they may be removed to a shady situation out of doors; and, previous to any danger from frost, cut back rather closely, disrooted and repotted in 9-inch pots, using light sandy soil. If placed in a dry situation, out of the reach of frost in winter, and put in a cool house when they commence growth in spring, potted when necessary, and set in a shady situation out of doors as soon as the danger of frost is over, they will make useful specimens for autumn flowering.

The fuchsia delights in a rich porous soil. Turfy sandy loam, two parts, and two parts thoroughly decomposed cow-dung and leaf-soil, with a sufficiency of clean sharp sand, to ensure the free percolation of water through the mass, will form a suitable compost for it. For weakly growers, turfy-peat will be preferable to leaf-soil, and for these very little cow-dung should be used.—(*Gard. Chron.*, 1852, p. 324.)

DAPHNE ODORA ROSEA.—Of all the odoriferous plants with which I am acquainted, this is the most delightfully fragrant, surpassing, in the estimation of many, even the agreeable odor of the rose itself, or of the violet. It is moreover a hardy greenhouse plant, of very easy culture, requiring no forcing to have it in bloom during the short days of winter, when fragrant flowers are scarce and much esteemed.

This variety of *Daphne* is usually increased by grafting it on stocks of some of the hardy kinds; but I find that it grows more vigorously on its own roots than when worked on any stock which I have tried; and I am satisfied that propagation by cuttings is preferable. Pieces of the young wood selected when about half ripe, planted in sandy soil, covered with a bell glass, and placed in a close frame, will root freely if they are kept properly supplied with water, and guarded from damp. The cuttings should be got in as early in the season as they can be obtained, in order that they may have time to become well-rooted in small pots, previous to winter. As soon as they are sufficiently established, pot them in 4-inch pots, and place them for a time in a rather close and moist situation. During winter they may occupy a place in the greenhouse, and will require no extra care beyond what is given to the inmates generally.

The *Daphne* is a slow-growing shrub, and unless means are used to induce the young plants to make two growths during the second season, they will hardly be worth notice as flowering specimens until they are three

years old. In February, place them therefore in a moist temperature of about 50 or 55 deg., and keep them freely supplied with water. As soon as they commence growing, examine the state of their roots, and if they require more pot room, shift into pots two sizes larger, and water very carefully after potting, for a week or two, until the roots have got hold of the fresh soil. During this time a sprinkling over head, morning and evening, will be beneficial. When they have completed their growth, which will probably be in about two months after placing them in warmth, it will be advisable to pinch out the points of the shoots and remove the plants to a cooler and more airy place, where the young wood will be ripened, and the buds become plump. If the plants are allowed to remain in this situation for a month, and be then placed in a moist and rather warm pit or frame, they will break into free growth, and should be shaded from the mid-day sun, while the wood and leaves are young and tender. Any that may appear to have filled their pots with roots should be examined and re-potted, if necessary, but the *Daphne* should never be overpotted; it is very impatient of stagnant moisture at the roots, and over-potting is not the best method of avoiding that. As soon as the growth is completed, begin to inure the plants to a drier atmosphere, exposing them to more air and sunshine, so as to secure the perfect ripening of the wood, and the production of blossoms. The formation of flower-buds will be indicated by the terminal buds becoming large and firm, and when this is the case the plants may be removed to a sheltered situation out of doors, or, if late in the season, to the greenhouse.

All that can properly be done this season to secure a succession of blossom, will be to place the most forward plants in the warmest part of the greenhouse, and leave the others to bloom later. As soon as they have done flowering, remove them to an airy place in the greenhouse, and shorten the stronger shoots, so as to secure a compact bushy habit of growth, and allow them to remain in this situation for about a month, or till the buds become plump. They may then be treated as recommended for last growing season, except that when the first growth is matured, they may be removed to a sheltered corner out of doors. To provide for a long succession of bloom, after February the plants must be introduced, at intervals, to a growing temperature, some being left to make their growth in the greenhouse. Those induced to start about the end of February will flower about the end of September or early in October, and with a little care in keeping the most forward plants in the closest part of the greenhouse, &c., there will be no difficulty in keeping up the supply of flower till May. The peculiarly agreeable fragrance of this *Daphne* renders it, at any season, a special favorite with all lovers of sweet flowers; but if a few plants in bloom can be placed in the conservatory in October, when there will seldom be any necessity for giving much air till after the family have paid the house their morning visit, the atmosphere will be loaded with most agreeable fragrance. The odor of the plant is not so perceptible in a cold house, or where there is a free circulation of air, but when placed in a moderately close atmosphere it is very powerful.

A soil composed of two parts of rich friable turfy loam, and one part turfy peat, freely mixed with silver sand and potsherds, broken rather small, will suit this *Daphne*. The loam and peat should be carefully broken up into rather small pieces, divested of all inert soil, and minutely intermixed with the sand, &c. In potting, make the fresh soil rather firm about the ball, and be especially careful to secure efficient drainage, as the plant will not succeed if there is stagnant moisture at the roots.—(*Gard. Chron.*, 1852, p. 180.)

BEDDING PLANTS IN TURF.—In establishments of ordinary magnitude thousands of plants are generally required for embellishing the flower garden during the summer months, and the manipulator is not unfrequently at a loss to know what scheme to contrive to get pots equal to the demand. Such has been my experience, and it has led me to employ turf as a substitute, which (when it can be obtained) is an excellent material for the purpose; in fact, in point of economy it is very far preferable to pots. I do not pretend to infer that pots can be entirely dispensed with, my object is to show to a certain extent what may be done without their aid. Pots for the purpose of which I treat, are only required for about two months out of twelve, and if we can lessen the number required, and that too advantageously as regards cultivation, so much the better.

I find that plants in turf do not involve so much labor as they do in pots, for if in the latter, in very dry weather they require watering every day, and sometimes twice, whereas, if they are in turf, they only need it once a week, the roots have more food at command, the temperature and humidity of the bed being more uniform, and evaporation not so excessive as when the roots are confined within the narrow limits of small pots; besides, when plants that are in turf do require water, the watering can be effected expeditiously with the rose of the watering-pot, but in the other case it cannot, for some may and some may not require water at the same time.

I have stated on a previous occasion that I propagate the greater portion of my bedding stuff on my vinery border, covering the cuttings with the portable tops of hand-glasses; they are thoroughly watered when put in, and the glasses are never moved (except to dry up superfluous moisture), until the cuttings are well rooted; directly the plants begin to grow, their tops are pinched off to ensure a sturdy growth; when in a moveable condition, I prepare pits and frames for their reception. In these I dispense with artificial heat, by merely keeping the lights on and fully exposing the surface to the warming influence of the sun's rays. Shallow turf-pits are excellent for this purpose; but if not naturally shallow, they are filled to within 8 or 10 inches of the top with half decayed leaves used for winter-forcing; these are made as solid as possible, and on them is laid an inch or more of coal-ashes. These are indispensable, as they prevent the turf from adhering to the subsoil, and render it capable of being taken out as entire and cleanly as when first put in. The turf is cut into slips from 2½ to 3 inches in width, and laid on an even surface, with the grassy side downwards. The whole surface being thus closely covered, small holes are cut about 1 inch deep, and 1½ inch in diameter, with an instrument I

had made for the purpose, and with which a thousand holes can be cut in a very short time.

The turf being thus perforated, the plants are carefully lifted and placed in the holes, using leaf-mould and light loam, equal parts (sifted), with a portion of sharp sand; this compost is firmly pressed about the roots as the process of planting proceeds; when completed, a copious watering is given through a fine rose with tepid water. The lights are then put on and kept quite close, and shading is applied during the hottest part of the day. When the plants have emitted fresh roots and commenced growing, the shoots are constantly stopped, and plenty of air is given to keep them dwarf and bushy. To encourage rapid growth the lights are closed early in the afternoon, with a slight sprinkling over head in warm weather; but as the season for turning out approaches protection is dispensed with altogether. When that period arrives the sods are cut through between each plant and planted entire, giving a liberal watering, and choosing, if possible, dull cloudy weather for the operation.

Plants may be successfully and advantageously treated in this way by growing them in boxes 2 or 3 inches deep. In these variety and color can be arranged in each box respectively, and being portable they can be shifted from one place to another with every facility. In labelling one only is required for two or three score of plants, or 200 or 300 when bedded in pits, precluding the necessity of individual labelling, which is generally essential when pots are employed, to prevent confusion.—(*Gard. Chron.*, 1852, p. 260.)

GESNERA ZEBRINA.—The rich, green, velvety-like, and elegantly marked foliage of this lovely *Gesnera*, renders it a pleasing and attractive object during all its stages of growth; and its fine spikes of deep red and orange blossoms are fully worthy of the fine foliage from amid which they issue. It may be had in bloom at almost any period of the year; but it is most valued and useful for autumn and early winter flowering, and for this purpose few plants are more useful.

Like *Achimenes*, *Gesneras* increase sufficiently fast, by means of their under-ground tubers, to render artificial propagation unnecessary, at least in the case of ordinary growers. If it is desired to have flowering specimens in autumn and early winter, the tubers should be carefully separated from the soil in which they have been wintered, about the beginning of March, and planted rather thickly on the surface of well drained pots or pans, filled to within about 3 inches of their surface with any light peaty soil, from which it will be easy to separate the roots without injury, and covered 2 inches deep. Give a gentle watering, to settle the soil about the tubers, and place them in a warm growing temperature of about 65° or 70°. Until the plants appear above the soil no more water should be given than may be necessary to preserve the soil in a moist healthy condition. As soon as the plants are from an inch to 2 inches high they should be separated and repotted. I use shallow 8-inch pots, and place five plants in each; but the number of plants to a pot should be regulated by the taste and convenience of the cultivator. With proper management one plant in

a pot will form a very fine specimen; but to effect this, more care and time are required than when five plants are put into a pot, and the latter form larger specimens than it is possible to obtain by having only one plant. After potting, keep the atmosphere close and moist, and give very little water at the root until they start into growth. When the pots are moderately well filled with roots, shift into the flowering size. For single specimens, 10-inch pots will be sufficiently large; when three plants are used, 12-inch pots will be necessary, and 13-inch pots in the case of five plants. Keep close and moist, and carefully avoid over-watering till the roots can penetrate the fresh soil. A high temperature during summer is rather injurious than beneficial in the culture of this plant; 50° or 60° at night, allowing it to range 10° or 15° higher with sun heat, will be most conducive to strong vigorous growth, and the production of handsome specimens. The plants should be placed near the glass, so that they may receive as much light as can be afforded them, but it will be found necessary to slightly shade them during bright sunshine, and the atmosphere should be maintained in a thoroughly moist state; but this must not be effected by excluding air and close shading, otherwise the plants will assume a sickly, drawn appearance, and the foliage will be thin and ill-colored. The shoots may be neatly staked, as soon as they are high enough to be liable to be broken. The stakes used may be cut off at the height of about 15 inches, which will be sufficient for the support of the plants; the flower-spikes will require no support, and if the plants are kept near the glass, and frequently turned round, they, too, will probably need no staking, to cause them to assume the desired form. This plant has a tendency, under high cultivation, to produce flower-spikes at the axils of the leaves, and it will generally form a more showy specimen in this way than if stopping is resorted to; but when only one plant is used as the foundation of the specimen, it may be advisable to stop once, when about 4 inches high. An occasional watering with clear manure-water will tend to promote vigorous growth; but this will be unnecessary till the plants have pretty well filled their pots with roots.

When the blossoms begin to be developed, the plants may be removed to the conservatory or greenhouse; but they must be gradually prepared for the change. Great care should be used to prevent their sustaining any check, and they should be guarded from currents of cold air after their removal. A temperature of from 45° to 50° at night will be necessary during the blooming season, if the plants are expected to increase in size and beauty for some two months.

When they show symptoms of decline, water should be gradually withheld; and when the foliage and stems die down, the pots should be placed in a situation where they will be free from damp and frost; unless the tubers are well ripened, they should not be placed in a lower temperature than 45°. A rich friable soil is essential to the production of fine specimens of this *Gesnera*. I find light sandy turfy loam, rich fibry peat, and thoroughly decomposed cow-dung, in about equal portions, adding a sufficient quantity of sharp silver sand, to insure the free percolation of water

through the mass, to suit it well. The loam and peat need not be broken up into very small pieces; but the dung should be passed through a fine sieve, to catch the worms, which it almost always contains. I ought to state that there are two varieties of this *Gesnera* in cultivation, the one having thin ill-colored leaves, and in every way much inferior to the other; therefore beginners should take care not to purchase the worthless variety, which, however, is not very common.—(*Gard. Chron.*, 1852, p. 292.)

ART. II. Domestic Notices.

PEELING THE BARK FROM CHERRY TREES.—It is an old adage that “nothing is made in vain,” and it is generally admitted that it is founded in truth. It seems, however, that it is not so in everything, for Professor Turner, of Illinois, states that it is only by *peeling off* (!) the bark of his cherries that he is enabled to save his trees. We know there are instances where life can only be saved by amputating a limb; but that the bark of the cherry should be peeled off as a general rule, we consider one of the most wild notions that a sane cultivator could conceive. We see no reason why other trees would not thrive without their bark just as well. Indeed, so elated was the Professor with his experiment with his cherries, that he intended this year to *rasp* the bark off of his *pear trees*, (!) with the expectation that it will add to their vigor. We should be glad to learn the result of the experiment.

Professor Turner is certainly zealous in the cause of Horticulture, and as observation, experiment and practice can only make a successful cultivator, some valuable information may be the result of his zeal. His mode of destroying the curculio, is to bore a hole in the stem of the tree, fill it with sulphur, plug up and seal with wax. (!) He now proposes to get rid of the pear blight, which he has ascertained is caused by an insect, by boring similar holes, and filling with quicksilver. (!)

We certainly must be thankful for the pleasure we have derived from our gardening labors. Beyond the ordinary vicissitudes of climate and the attacks of insects, we have nothing to complain. We have neither used gas tar, coal ashes, tan, iron filings, blacksmiths’ cinders, copperas, lime, sulphur, soot, peat, or other nostrums, upon or around our trees, and find them only to be *too* vigorous. If we had experienced the ills which Professor Turner seems really to groan under, judging from his articles in the *Horticulturist*, we should quit our garden, and take refuge in some place where there would be no vestige of vegetation to remind us that trees and plants were only given to man to—murder with bad treatment.

ART. III. Horticultural Societies.

BUFFALO HORTICULTURAL SOCIETY.—*April 6th.* Exhibited,—By B. Hodge, apples—Vandevere(?) Westfield Seek-no-farther, Swaar, Pownal

Spitzenburg, Esopus Spitzenburg, Crow's Nest Russet, Hawkins's Pippin, Block, English Russet, and var. nameless. By Lewis Eaton, Baldwin, R. Island Greening. Most of these were discussed. Some conversation ensued in regard to the culture of the strawberry, and the depredations of mice during the past winter, and the best mode of guarding against them.

The N. Y. S. Agricultural Society having appointed a time for holding their Fair which would conflict with the Society's Annual Exhibition, it was determined to change the time of holding the latter to the 2d and 3d of September. Adjourned.

April 20th. Exhibited.—By Warren Granger, apples—Northern Spy, Roxbury Russet, Baldwin, American Golden Russet, Swaar, Pownal Spitzenburg, R. I. Greening. By Charles Taintor, Baldwin. The above were tested, and, after the usual discussion, the society adjourned.

May 4th. Exhibited.—By Mason & Lovering, pot plants—Cactus alatus, Pelargonium Lady Denbigh and Royal George, White azalea, *Bartisia pallida*, *Tropæolum tricolor grandiflora*, *Cytisus ramæus*, *Phœnicia*, *Heliotropes peruvianum* and *grandiflorum*, *Cineraria Attila*, *Cilicia Palm*, *Araucaria imbricata*, *Pinus excelsa*, early double tulips,—lettuce and radishes. By Matthias Zeis, hyacinths, violets, daffodils, blue bells. By Mrs. L. Eaton, crocus, 3 var., hyacinths, pansies.

Prizes were awarded Mason & Lovering, for a display of pot plants, \$3, and for lettuce, \$1. Adjourned.

May 18th. Exhibited.—By Lewis Eaton, asparagus, 3 bunches. By W. R. Coppock, asparagus, 1 bunch, rhubarb, 12 stalks. By A. Bryant & Son, asparagus, 4 bunches, rhubarb, 5 var., two bouquets of tulips, snow drops, polyanthus, hyacinths, *Pyrus japonica*, &c. By A. H. Bryant, pansies, 8 var. By Mrs. L. Eaton, tulips, 10 var., hyacinths, 10 var., pansies, 6 var., double flowering cherry, English violets, *Pyrus japonica*, polyanthus, periwinkle, blue bell.

Prizes were awarded :—

For the best 6 var. pansies, to A. H. Bryant, \$1.

For the best 3 bunches asparagus, to L. Eaton, \$2.

For the best 12 stalks rhubarb, to A. Bryant & Son, \$1.

The Committee of Publication presented 300 copies of the Annual Report, which the secretary was directed to distribute. Adjourned.

June 1st. Exhibited.—By Mrs. Vandeventer, apples—Northern Spy. By Mason & Lovering, Cactus Ackermania, Epiphyllum Jenkinsonii, *Cereus speciosissimus*, in pots; tulips, 50 var., two bouquets of roses, geraniums, heliotropes, verbenas, fuchsias, euphorbias, &c. By Mrs. L. Eaton, tulips, 10 var. By Mrs. H. Shumway, jonquils. By A. Bryant & Son, tulips, 20 var., pæonies, 4 var., *Spiræa prunifolia*, Lily of the Valley, *Pyrus japonica*, snow drops, &c.; asparagus, 3 bunches, rhubarb, 4 var.

The prize for the best 10 var. of tulips was divided between Mrs. Eaton and Mason & Lovering.

The secretary was directed to procure suitable signs, to be used upon the days of holding meetings and exhibitions.

The Northern Spy apples shown by Mrs. Vandeventer, were tested, and

found to be perfectly sound, full of richness, aroma, and high flavor; and the society was unanimous in esteeming it the very best late-keeping apple. Adjourned.—JOHN B. EATON, *Recording Secretary*.

ART. IV. *Massachusetts Horticultural Society.*

Saturday, June 5th, 1852.—An adjourned meeting of the Society was held to-day,—the President in the chair.

Voted, that the models of Fruits from Townsend Glover be placed in the hands of Fruit Committee.

The President presented documents from M. Letour, of Montreal. Thanks were voted for the same.

B. V. French submitted a motion to appoint a committee to investigate the conditions upon which the Society holds its various funds. Adopted, and the Committee authorized to employ council.

R. B. Leuchars, of Roxbury, and Wm. P. Tenney, of Fairhaven, were admitted members.

Adjourned two weeks, to June 17.

Exhibited.—**FLOWERS:** From Hovey & Co., cut flowers of several superb varieties of pelargoniums, among which were the following *fancy sorts*:—Empress, Hero of Surrey, Jenny Lind, Pilot, Perfection, Belle d'Africa, Jehu Superb, Alboni, Maid of Anjou, Belle d'Epinay, and Bouquet tout fail. *Show sorts*:—May Queen, Ajax, Prince Arthur, and Gaiety. Also, rhododendrons, ten varieties azaleas and pansies. From Winship & Co., twelve varieties azaleas, *Dicentra spectabilis*, (fine specimen,) and cut flowers in variety. From P. Barnes, verbenas Mrs. Mills, and cut flowers in variety. From E. M. Richards, bouquets and cut flowers in variety. From J. A. Kenrick, azaleas in variety, *peonies*, and cut flowers. From A. Bowditch, a plant of *Amaryllis Johnsonii*. Bouquets and cut flowers from J. Nugent, B. Harrington, Miss Mary M. Kenrick, and W. Kenrick.

GRATUITIES AWARDED.

To Hovey & Co., for pelargoniums, \$2.

To E. M. Richards, for cut flowers, \$2.

To A. Bowditch, for *Amaryllis*, \$1.

To P. Barnes, for cut flowers, \$2.

To Winship & Co., B. Harrington, J. Nugent, M. M. Kenrick, J. A. Kenrick, Wm. Kenrick, Miss Russell, for cut flowers and bouquets, \$1 each.

June 12. Exhibited.—**FLOWERS:** From Winship & Co., cut flowers in great variety. From Hovey & Co., thirty varieties of azaleas, eight varieties of hawthorns, Lilac *grandiflora*, &c. From P. Barnes, *Dicentra spectabilis*, (fine specimen,) *Dodecatheon*, and flowers in variety. Cut flowers in variety, and bouquets, from E. M. Richards, Wm. Kenrick, Jas. Nugent, Miss Kenrick, and J. A. Kenrick.

From W. E. Carter, Dodecatheon, new seedling, very fine, the same as exhibited last year; also cut flowers in variety.

PREMIUMS AND GRATUITIES AWARDED.

HAWTHORNS.—For the best display, to Winship & Co., \$3.

For the second best, to Hovey & Co., \$2.

HARDY AZALEAS.—For the best display, to Hovey & Co., \$5.

For the second best, to Winship & Co., 3.

GRATUITIES.—To J. A. Kenrick, for hawthorns, \$2.

To Jas. Nugent, for cut flowers and bouquets, \$2.

To W. E. Carter, for Dodecatheon, \$1.

To Miss M. M. Kenrick, Miss Russell, E. M. Richards, W. Kenrick, and P. Barnes, for cut flowers, &c., \$1 each.

FRUIT: From James Nugent, grapes, Black Hamburg. From A. Wales, grapes, Macready's Early White. From W. C. Strong, grapes, Chasselas, Muscat of Alexandria, Black Frontignan, Black Hamburg. From Hovey & Co., grapes, Black Hamburg. From J. F. Allen, Victoria, Black Hamburg, and two seedlings, which proved very fine. The Musque seedling (which is delicious) is an accidental cross between Verdelho, the Madeira wine grape, and the Grizzly Frontignan, and combines the characteristics of the two; the other is a seedling Hamburg.

VEGETABLES: From J. French, Godfrey cucumbers, (fine.) From G. Leland, (Waltham,) peas, Hovey's Extra Early. From Amos W. Stetson, (East Braintree,) Victoria rhubarb. From Hon. Daniel Webster, Palestine lettuce, (well grown.)

June 19.—An adjourned meeting of the Society was held to-day,—the President in the chair.

The President presented a Report of the Albany and Rensselaer Horticultural Society, a Treatise on the Grape, by R. Buchannan, and a Catalogue of Messrs. Baumann, of Bollwiller.

Adjourned two weeks, to July 3.

Exhibited.—**FLOWERS:** From the President of the Society, twenty-one varieties of herbaceous peonies,—among them fine specimens of *Bucykiei* and *papaveriflora*; also fifty varieties of *Iris*. From J. A. Kenrick, *Magnolia macrophylla*, *Virgilia lutea*, and other flowers. From Winship & Co., *Virgilia lutea*, *Dicentra spectabilis*, *spiræas*, and other flowers. From Hovey & Co., fifty varieties of hardy roses, twenty varieties of herbaceous peonies,—among them fine specimens of *P. festiva*,—twenty varieties of perpetual roses, &c., &c. From M. P. Wilder, a great variety of roses and herbaceous peonies. Cut flowers, bouquets, &c., from P. Barnes, E. M. Richards, J. Nugent, J. Dunklee, Samuel Walker, W. Kenrick, W. E. Carter, and others. From A. Bowditch, *Veronica Andersoni*, (fine specimen,) *Amaryllis crocata*, and six fuchsias; also cut flowers.

PREMIUMS AND GRATUITIES AWARDED.

HERBACEOUS PEONIES.—For the best ten varieties, to M. P. Wilder, \$5.

For the second best, to Hovey & Co., \$4.

For the best display, to M. P. Wilder, \$3.

HARDY ROSES.—Class I. For the thirty best distinct varieties, to M. P. Wilder, \$8.

For the second best, to Hovey & Co., \$6.

For the best display, to M. P. Wilder, \$3.

HARDY ROSES.—Class II. For the twelve best distinct varieties, to M. P. Wilder, \$5.

For the second best, to Hovey & Co., \$3.

HARDY PERPETUAL ROSES.—Class III. For the ten best varieties, to M. P. Wilder, \$5.

For the second best, to Hovey & Co., \$4.

For the best display, to Hovey & Co., \$3.

GRATUITIES.—To A. Bowditch, for *Verónica Andersoni*, &c., \$5.

To the President of the Society, for herbaceous peonies, \$2.

To Winship & Co., for *Virginia lutea*, \$2.

To James Nugent, for cut flowers, \$2.

To P. Barnes, for cut flowers, \$2.

To A. Bowditch, for cut flowers, \$2.

To E. M. Richards, W. E. Carter, Wm. Kenrick, J. Hovey, and J. A. Kenrick, for cut flowers, &c., \$1 each.

FRUIT: From Levi Jennings, strawberries, Hovey's Seedling. From J. B. Moore, strawberries, Boston Pine, Early Virginia. From W. C. Strong, grapes, Muscat of Alexandria. From Hovey & Co., grapes, Black Hamburg. From James Nugent, grapes, Black Hamburg. From J. F. Allen, grapes, Seedling Musque, Deccan's Superb, Grizzly Frontignan, Seedling Black Hamburg, —figs, —nectarines, Hunt's Early Tawney, —Grosse Mignonne peaches. From Josiah Richardson, strawberries, Swainstone Seedling, Boston Pine, and Cambridge.

June 26. Exhibited.—**FRUIT:** From Henry Vandine, May Duke cherries. From Levi Jennings, Jr., Hovey's Seedling strawberries, (fine.) From Azell Bowditch, Coe's Transparent cherries.

This is the first time this cherry has been presented. The Committee are of opinion that it will prove one of the best for the time of ripening; its great beauty will serve also to recommend it.

From J. Lovett, Hovey's Seedling strawberries. From M. H. Simpson, Hovey's Seedling, fine. From Thomas Rice, Hovey's Seedling. From W. R. Austin, Jenney's Seedling, fine. From J. B. Moore, Hovey's Seedling, very fine.

From C. E. Grant, May Duke cherries. From J. F. Allen, grapes, White Nice, one bunch weighing two pounds, Zinfandel, Black Hamburg, finely colored, Wilmot's New, Wilmot's No. 16, Gros Coulard, new, from a vine which was planted five years since; it is a white grape, and proved of a fine flavor; also a new seedling black grape, from seed of the Wilmot's new Hamburg, —in form, much resembling the White Hamburg. Both of the last named grapes are early, and the former, (Gros Coulard,) Mr. Allen informs the Committee, is a very slow grower, while the seedling is a fine grower.

From Samuel Walker, two boxes of his Seedling strawberry, which continues to sustain its former high reputation. From Galen Merriam, three boxes of cherries. From Cheever Newhall, Belle d'Orleans cherries. From Josiah Richardson, Hovey's, fine, and Richardson's Late, strawberries.

HORTICULTURAL OPERATIONS

FOR JULY.

FRUIT DEPARTMENT.

The season thus far, taking it altogether, has been one of the most promising for fruit that we have had for some years.

The cultivator is never satisfied; one year the season is too dry; another too wet; one too early; another too late; some of the winters are too cold; others too mild; so that there is always a chance to grumble. The pear cultivators have certainly had some reason to be discontented, on account of the almost entire loss of their crop for three years. Ample amends, however, are now made for such a loss, for with some kinds it appears as if the trees had now on them at least three years' crops.

Since our last the weather has been warm and rather dry, but a genial shower the last week of June has freshened vegetation and everything looks as thrifty and flourishing as the most ardent cultivator could wish.

GRAPE VINES in the greenhouse now begin to color their fruit; and if due attention has been given to our remarks last month, they will now need but little care; that little being the regular shortening of all laterals, giving due quantities of air, keeping the house moist, and attention to insects, particularly the mealy bug. If the weather should continue dry, give the border a good soaking with water, and mulch if convenient. In cold houses the thinning should now be completed, and other care given as we have just noted for the more forward houses. Vines in the open air should now be carefully looked after, tying in such shoots as are wanted for next year, and stopping the laterals two or three eyes beyond the fruit.

PEACHES in pots will now begin to ripen their fruit, particularly such kinds as the Early York. Keep them well watered until they are well colored, using liquid manure, soap suds or guano, and afterwards withholding water, only giving as much as they absolutely require. Thin out the wood of young trees intended for fruiting next year.

STRAWBERRY BEDS as soon as the fruit is gathered should be nicely weeded, and the spaces dug between the rows, to make room for young runners.

PLUM AND PEAR TREES may be budded the last of the month; if dry weather it will certainly require to be done; but if moist perhaps not till next month; all depends on the weather and vigor of the stocks, of which the cultivator must take notice.

SUMMER PRUNING of both pear and apple trees will now keep the cultivator busy, where there are many of them. Attend to the directions given in our previous volumes, and trees of any shape, and full of fruit buds, may be obtained.

INSECTS will still need to be kept in remembrance. The pear slug will be busy now; the aphid on apples, and caterpillars of various kinds. Whale oil soap is THE stuff for them.

FLOWER DEPARTMENT.

Now is the time to prepare for winter. The spring work over, everything bedded out, and the greenhouse and conservatory filled with their summer occupants, now is the time to look up the various plants which are to make gay the winter months. Many kinds of seeds should be sown for this purpose, and all those plants whose real beauty depends upon their summer growth, such as *Linums*, *Euphorbias*, *Cestrum*s, *Lantanas*, &c., should be encouraged in their progress by free applications of weak liquid manure. Discontinue stopping the shoots before the end of the month. Now is the time to lay in a stock of the proper sorts for next winter's use, and as a guide to what are the proper soils to amateurs especially, we have only to refer to the capital advice in our last, (p. 277.)

CAMELLIAS should be liberally watered and repeatedly syringed that the swelling of the buds may have no check. Now is a good time to inarch and graft; also to put in cuttings.

PELARGONIUMS will now be going out of bloom, and may be headed down this month and a stock of cuttings put in. Place the old plants in a half shady situation, and water sparingly till they begin to grow.

CHRYSANTHEMUMS growing vigorously should be well watered, using liquid manure or guano occasionally. Plunge in saw-dust, tan, or earth, give the plants room and stop all forward shoots, up to the end of the month.

CINERARIAS AND **CALCEOLARIAS** should now be propagated by dividing the old roots. Pot in light rich leafy soil, and keep in frames till well established. Seedlings should be encouraged by a shift into larger pots.

CHINESE PRIMROSES: remove the old plants to a frame facing the north, and shade in very hot sunny days. Make a sowing of seeds now for a supply of young plants of the single kinds.

CESTRUMS will require a shift now into the next size pots.

ACHIMENES, **GLOXINIAS** AND **GESNERAS**, intended for fine specimens, should be encouraged by a shift into larger pots.

VERBENAS for flowering early next winter should now be raised from cuttings or layers, so that they may be made strong plants by repeated stoppings before October.

AZALEAS which have completed their growth, may now be repotted if they require it, and removed to a shady place in the open air.

ERICAS AND **EPACRISSES** should be plunged in sand in a half shady place not under the drip of trees. Be particular about watering them and never let them suffer.

CYCLAMENS may now be allowed to rest, by withholding water for a few weeks.

FUCHSIAS intended for large specimens should be shifted as often as the pots are filled with roots.

ORANGES AND LEMONS may be budded or grafted now.

SWEET ALYSSUM, MAGNOLIA, and other annuals for winter flowering, should be sown now.

STEPHANOTIS FLORIBUNDA should be liberally watered and freely syringed now.

CACTUSES should be encouraged in their growth by occasional watering with guano.

OXALIS *hirta* and *Bowicz* should be repotted this month, as they bloom in August.

FLOWER GARDEN AND SHRUBBERY.

To keep up a neat and finished appearance in the flower garden and shrubbery will require strict attention throughout the month. Weeds spring up with rapidity, grass edgings and lawns soon show the want of the scythe, and plants going out of flower soon tell their own story if they are neglected. Constant hoeing, weeding, and raking, will only keep the beds and borders in fine condition; and nothing gives a more forbidding aspect to the flower garden than old dead flower stems. Every plant, as soon as it goes out of flower, should have the tops cut off, unless intended for seeds.

CARNATIONS should be layered the last of the month. Tie up the flower stems of such as are about to bloom, and thin out the beds, if large specimens are wanted.

PINKS should be raised now from cuttings or pipings.

DAHLIAS should be well staked, and as the plants grow up, the bushy ones should be pruned of the weaker stems. Water with liquid manure, and syringe over the foliage.

TULIPS should be taken up now.

PERENNIAL and BIENNIAL flower seeds may be sown now.

PANSY SEEDS, for spring flowering, may be planted this month.

ROSES should be layered this month; budding should also be done now.

VACANT PLACES in the flower beds should now be filled up, from the reserve garden, with annuals of various kinds, such as amaranthuses, asters, balsamines, &c., &c.

VEGETABLE DEPARTMENT.

CELERY plants should now be put out in good, well-enriched ground.

CUCUMBERS for pickles may be planted now.

SPINACH should be sown now.

ONIONS may be sown now for a spring crop.

CAULIFLOWERS and BROCOLI may be sown now for a spring crop.

WATER liberally all vegetables when fine specimens are wanted; particularly Egg plants.

THE MAGAZINE OF HORTICULTURE.

AUGUST, 1852.

ORIGINAL COMMUNICATIONS.

ART. I. *Mineral Manures, and the Value of Guano as compared with Manure.* By the EDITOR.

IN our last volume, (XVI, p. 529,) we discussed the important question of the Mineral Theory of Manures, and promised to take up the subject again at a future time. An opportunity to present the views of an eminent chemist, Mr. David A. Wells, of Cambridge, which we think go to substantiate our opinion there expressed, induces us to do so at this time, and also to present some well authenticated facts relative to the value of guano as compared with stable manure.

Mr. Wells was intrusted by the secretary of the Ohio State Board of Agriculture, Prof. W. W. Mather, with the office of examining, analyzing, and reporting upon the nature and composition of the soils of that state, particularly those of the rich Scioto valley. A full account of his labors is given in *Silliman's Journal* for July, from which we make the following extracts:—

The soil which I would first notice, was taken from the best bottom-land, opposite the mouth of Sun-fish creek, about one hundred yards east of the Scioto. This ground is occasionally overflowed, and has been cleared and cultivated about eighteen years successively in corn, and yields with ordinary culture from seventy to eighty bushels of corn to

the acre. The average crop has not sensibly diminished since it was first cleared. The timber-growth originally upon this ground was honey-locust, black-walnut, pawpaw, box-elder, white-ash, elm, mulberry and buckeye.

The color of this soil, when dry, was dark brown, or black, of an extraordinary degree of fineness. Sample examined, entirely free from stones or pebbles. The character of this soil for the absorption and retention of moisture was carefully noted, but as the results obtained seem to me to have mainly a comparative value, they are here omitted.

The chemical analysis gave as follows :—

Water, hygrometric and combined, ...	03-636
Waxy and resinous matters extracted by alcohol, ...	0030
“ “ “ “ “ “ “ ether, ...	0025
Total extract, ...	0055
Total per centage, ...	00-0164

Constituents soluble in pure water :—

Extract of earth, alkaline chlorids, with traces	
of lime, ...	0460
Organic matter—crenic acid, ...	0208
Silica, iron, lime, with traces of sulphuric acid, ...	0652
Total water extract, ...	1320
Total per centage, ...	00-395

Constituents soluble in dilute acid :—

Iron, alumina with traces of manganese, ...	01-995
Organic matter in combination with the above, ...	01-004
Silica, ...	00-640
Phosphoric acid, ...	00-041
Potash and soda, ...	00-100
Lime, ...	01-026
Magnesia, ...	00-236

Total per centage of constituents soluble in dilute acid, ...	5-042
Organic matter rendered soluble by ammonia, ...	01-840
“ “ “ “ “ soda, ...	04-368

Organic matter remaining in combination with the insoluble residue, and determined by ignition, .	04·145
Whole amount of organic matter found in the soil, as extracted by water, acids and alkalies, and also determined by ignition from the final residue, .	11·373
Whole amount of organic matter determined in another equal portion of the same soil by ignition, .	10·970
Difference, ...	00·403
Insoluble silicates and earthy residue, ...	78·842
One hundred parts of the insoluble residue gave by washing and separation, 45 parts siliceous sand, and 55 clayey matter.	
Total per centage, of the whole analysis, ...	98·2844

Another soil examined was from the "Ree Ree Bottom," a tract of land occasionally overflowed by the Scioto River. It has been cultivated fifty-one years; forty-five crops of corn and two or three of wheat have been taken off from it; it has also been a few years in grass or clover. It has scarcely diminished fertility, and now with the most ordinary culture yields on an average, one year with another, eighty bushels of corn to the acre.

The analysis of this soil gave :—

Water, hygroscopic and combined, ...	3·500
Resinous and waxy matters extracted by alcohol and ether, ...	·036 .

Constituents soluble in pure water :—

Extract of earth, alkaline chlorids, &c.	·032
Organic matter—crenic acid, ...	·010
Iron, lime and silica, ...	·012

Total water extract, ...	·054
Total per centage of the same, ...	0·190

Constituents soluble in dilute acid :—

Iron, alumina and manganese, ...	2·760
Organic matter combined with the above, ...	0·860
Silica, ...	0·560
Lime, ...	0·390

Magnesia, ...	0.280
Phosphoric acid, ...	<i>traces.</i>
Potash and soda, ...	0.161
Total acid extract, ...	5.011
Organic matter rendered soluble by ammonia, . . .	3.140
“ “ “ “ “ soda, . . .	1.030
Organic matter remaining in combination with the insoluble residue, and determined by ignition, .	1.720
Insoluble silicates, ...	83.010
100 parts of the insoluble residue gave by washing and separation 59 parts siliceous, and 41 parts clayey matter.	
Total amount of organic matter extracted by alkalis and acids, ...	6.750
Total per centage of the whole analysis, . . .	97.637

In the separation of the organic constituents of a soil by means of alkalies, a slight loss is almost unavoidable, owing to the separation and solution of a part of the alumina and other inorganic substances in combination with the organic matter, forming salts.

In the examination and analysis of these soils of the Scioto Valley, several points of interest were noted by me, which I consider worthy of especial attention. Their reputation for fertility is extensively known, as well as their general character and chemical composition, but I am not aware that any extended and thorough examination of a suite of specimens, from known localities, has heretofore been made by any chemist.

The first and perhaps the most interesting fact noticed in the examination of these soils was the remarkable degree of fineness of their constituent particles. In this respect I venture to assert that they are not surpassed by any other alluvial deposits upon the surface of the earth, some of the soils being little else than impalpable powders. In commencing their examination, it was at once seen, that a mechanical division of these soils by means of the sieves ordinarily used in soil analyses, would not afford a fair indication of the minuteness

of their particles. I therefore procured a sieve of the finest gauze, the largest meshes of which by accurate measurement did not exceed one-sixtieth of an inch in diameter. The soil was then broken in a porcelain mortar, care being taken that only the dried particles were crushed, without triturating any of the silicates or earthy matter. One hundred parts of six samples so treated, were sifted upon the sieve before described, and left the following small quantities of coarse residue; of this residue, it should be stated, that it was composed in part of vegetable fibres and undecomposed organic matter. Of soil No. 1, seven parts in one hundred remained upon the sieve; of No. 2, one and six-tenths parts; of No. 3, a subsoil, from twenty to thirty parts; of No. 4, six and three tenths; of No. 5, one and five tenths; of No. 6, eight parts in one hundred.

This remarkable comminution of the particles of these soils, gives us at once a clue to the secret of their great fertility. With this fineness an increased power is given to a soil for the absorption, retention and condensation of moisture, carbonic acid, and ammonia, an opportunity for the free permeation of atmospheric air, a facility to the rootlets of plants for extension, and a consequently increased facility for receiving and appropriating nourishment. Indeed, a soil but scantily provided with the inorganic constituents deemed necessary for the support of vegetable life, but gifted with this fineness of the elementary particles, must possess great elements of fertility. I consider the existence of a large proportion of finely divided matter in a soil, of almost as much consequence so far as regards its fertility, as its chemical constitution is. It must be also evident, that a soil composed in great part of siliceous matter (as many of the fertile western soils are), may, if the particles possess sufficient fineness, assume to a considerable extent the good properties and characteristics of an aluminous soil, without its bad ones. As an illustration of this I would state, that one of the best tobacco soils upon the Island of Cuba, some time since examined by Dr. A. A. Hayes of Boston, was found to contain ninety per cent. of the peroxyd of iron. And yet this soil, which we

might suppose would be barren, without the usual proportions of siliceous and aluminous matter, is, on account of its great fineness and the remaining ten per cent. of organic and inorganic constituents, enabled to produce the best crops upon the island.

These advantages of fineness, it is evident the Ohio soils will always possess, as it cannot be exhausted by any system of agriculture. To this point I wish to call especial attention, since if due regard be paid to the supplying of these soils with the necessary quantities of organic and inorganic nutriment, they must and always will be unrivalled for fertility. An examination of the siliceous insoluble constituents of these soils, leads to the belief, that they have not been derived from the disintegration or decay of any underlying or contiguous rocks, but from materials brought from a distance. The rocks of Ohio are for the most part carbonate of lime, and yet in only one of the soils examined, a subsoil, could the slightest trace of carbonic acid be detected. The method adopted for testing, was by placing the soil in a favorable light upon a watch-glass, covering with dilute warm acid, and noticing carefully for the appearance of effervescence. In this way the most minute quantity of carbonic acid could not fail of being detected. In the examination of the soils of Massachusetts by Pres. Hitchcock, the same remarkable deficiency of carbonates, even in soils resting upon carbonate of lime rocks, was noticed. The same conclusions have, I understand, been arrived at by Dr. D. D. Owen, from an examination of the soils of Iowa and Wisconsin. From these facts we believe that the alkaline and earthy carbonates are to a much greater extent wanting in arable soils than is generally supposed. This supposition, however, should perhaps be confined to the northern portions of this country, which have soils resulting mainly from materials distributed by the drift agency.

In the analyses of these soils, the separation, and estimation of the comparative value of the organic constituents has been made by means of alkalies. This plan seems to possess advantages over that of any other. A given portion of

the soil, after washing with water and dilute acid, is digested with a small quantity of caustic ammonia. The organic matter rendered soluble is washed out, precipitated by an acid, dried at 250° F., and weighed. This determination it is considered shows at once the *present value* of the organic portion of the soil—in other words, how much organic matter is so far decomposed, or changed, as to be available for the present crop. The soil after digesting with ammonia and washing, is next treated with a stronger alkali, caustic soda, and the organic matter rendered soluble by this agent is collected and determined as before. This estimation, it is conceived, shows the amount of organic matter existing in a state not so sufficiently decomposed or changed as to be immediately available for the use or nourishment of plants, but in a state preparatory for such use, or nourishment, and which at no distant period will become available. Thus, if we were to represent the organic matter rendered soluble by ammonia as in the state of crenic acid, ready to be dissolved in water, or by the aid of weak alkalies, we might consider the organic matter rendered soluble by soda, as in a state of apocrenic or humic acid, insoluble in water or weak alkalies. Lastly, it is found that after digesting a soil even with strong alkalies, and after repeated washings with acids and water, a considerable quantity of organic matter will remain fixed, and completely insoluble. This portion of organic matter, generally the largest in a soil, is considered to be in a state allied to charcoal, or more properly lignite, valuable in many respects, as an absorbent of moisture, etc., but taking no active part in the production and sustenance of the plant. In ordinary soil analyses, the amount of organic matter, in these three conditions is determined as a whole, and without distinction, thus giving the agriculturist no opportunity of judging whether this portion of his soil is in a condition resembling a peat bog, or in a state conducive to fertility.

There is one other subject connected with these analyses, which I consider of the highest importance, and to which I would direct especial attention. Dr. Dana of Lowell, in the course of many years experience, has collected and preserved

the results of more than four hundred analyses of soils, from the northern portion of this country. The analyses of the soils I have made from Ohio, and the analysis of all the soils resulting from the drift agency, do not differ *materially*, so far as regards their inorganic constituents. That is to say, the soils of Ohio, yielding with little or no culture from seventy to eighty bushels of corn to the acre, are no better, so far as their mineral composition is concerned, than many of the Massachusetts soils which have a reputation for sterility. Slight differences it is true, exist, but not to such an extent as might be supposed from contrasting their relative products of the different soils. In what then is there a reason for their difference in value to be found? It cannot be in the attributes in which they agree—which are their mineral constituents, but in the attributes in which they differ; and these are the amount and condition of the organic matter contained in the soils, and the fineness of their elementary particles.

These conclusions, if of any value, may show to the agriculturists of New England, the necessity for the thorough breaking and pulverizing of the earthy particles, and for the preservation, preparation, and proper application of organic manures, the produce of the farm-yard and the muck-beds. These suggestions are not new; they are the results of the experience of ages, and of the observations and experiments of every practical farmer. The agricultural tendency of the present day is toward mineral manures;—I would not undervalue them, but at the same time I wish that the old notions respecting thorough tillage, and the value of barn-yard products,—notions, the value of which experience has taught, and which all scientific investigations are now confirming,—may not be underrated or undervalued."

The concluding remarks of Mr. Wells, are that portion of the article to which we would ask particular attention. In our paper above referred to, we stated that Dr. Dana had pronounced it a **FOURTH** leading principle of agricultural chemistry, that "**SOILS CONTAIN ENOUGH OF ALL THE MINERAL**

ELEMENTS TO FORM ANY CROP." This principle Mr. Wells confirms; for he states that the rich PRAIRIE SOILS of Ohio, so fertile as to grow successfully FORTY-FIVE crops of corn, "*do not differ MATERIALLY, so far as regards their INORGANIC constituents,*" from the soil of New England. That is, the sterile soils of Massachusetts are as rich, so far as their mineral composition is concerned, as the prairies of the west!

Mr. Wells, like all writers who touch this subject,—probably out of respect to Liebig, the author of the mineral manure theory,—does not "undervalue them." Not in the least; but his "conclusions, if of any value, show to the agriculturists of New England, the necessity for the *preservation, preparation, and proper application, of ORGANIC manures, the product of the farm-yard and the muck-beds.*" "These suggestions," he says, "are not new; they are the results of the experience of ages, and of the observations and experiments of every practical farmer." Not in the least does Mr. Wells "undervalue" mineral manures; but he does wish that "the old notions respecting thorough tillage, and the value of *barn-yard* products,—notions, the value of which experience has taught, and which scientific investigations are now confirming,—may not be underrated or undervalued." Read that attentively, advocates of *special manures*! Mr. Wells shows that he is not only a man of science, but a man of common sense; for latterly we have begun to think that the two are incompatible. If we had time to spare, we should like to put in juxtaposition the opinions of Professor Mapes and Mr. Wells. The "old notions," which Mr. Wells speaks of,—the "experience of ages," which he alludes to,—as well as the observations of "practical men," belong to the antediluvians. The Professor cares no more for such old fogies as Tull and Young, than he does for such chemists as Davy and Chaptal. This is an age of progress. To talk of "old notions" in agriculture in this railroad and telegraphic age, only exposes one to ridicule and contempt. *One dollar and thirty-one cents' worth* of mineral manure will produce more corn on a Jersey barren, per acre,

according to Professor Mapes, than the rich soils of the Scioto, analyzed by Mr. Wells. Old notions indeed! Why, a German chemist, a few years ago, discovered a preparation by which the most abundant crops could be produced merely by rolling the seed in a prepared chemical compound; manure and tillage were alike useless.

Seriously, we think Mr. Wells has performed a valuable service. With him, we do wish that our farmers would look to the experience of the past, rather than the speculations of the present. Science has done, is doing, and will do much for agriculture; but to throw away observation, experience and practice, would be like throwing overboard the compass to the mariner; the latitude and longitude might be found, but how would he steer his course?

We have so repeatedly urged the liberal use of Guano, instead of manure, or rather in connection with it, that so far as our opinion goes it is unnecessary that we should offer another remark to confirm what we have constantly practised and recommended in our pages. It is well, however, to fortify our views by facts, well authenticated, and as we find an account of a series of experiments, carried on under the Yorkshire Agricultural Society, in the *Gardeners' Journal*, we hasten to give the same to our readers. In most or all of the trials which have been made with guano, by our farmers and horticulturists, sufficient time has not been allowed. If one season it was thought the guano did no good, the next it was abandoned; and thus no definite results obtained. In the experiments below detailed it will be seen that the experiments were successfully tried for some years, on the same land, and in one locality,—the only means of arriving at safe conclusions:—

The Yorkshire Agricultural Society has for several years past instituted a series of experiments for the working out of practical facts, adapted to the soils and climate of that large county. Knowing the modifying effects of climate, soil, and peculiarity of situation, the council have year after year set about a studied and arranged set of trials, which tend to

establish some one or other of the principles of agricultural truth. For this purpose, careful selections are made of practical and skilful farmers in various locations of the county, presenting variations of aspect, of climate, of altitude, and also of soil and geological formation; and to these is given respectively one and the same experiment, to try one manure on one crop; and all the results, brought to the test of the bushel and the scale, are registered and arranged for the information of the society's members.

But more: we all know one year's trials, even in different circumstances, is not sufficient to stamp a fact with undoubted accuracy. Hence, in some cases, two and even three years are required. Light sometimes breaks in in the first year, which a second either darkens or improves. The experiments of 1850 were on the relative merits of coprolites and guano against farm-yard manure; the experiment committee arrived at the conclusion that, "in certain cases, turnips may be grown more cheaply with properly selected hand tillage than by heavy dressings of farm-yard manure." To confirm, or to modify that opinion, the council sent out a set of manures, dissolved coprolites and Peruvian guano, supplied by Mr. T. Pearson, of Leeds, and the experiments were arranged under the following heads:—

1. To show the natural produce of the land, one part was to have no manure whatever.
2. Was to have twelve tons per acre of farm-yard dung.
3. Was to have six tons of dung, and one cwt. each of guano and dissolved coprolites; and
4. Was to have two cwt. of guano and two cwt. of the coprolites.

Other substances might be tried as additions, but these were to be the standard experiments. The names of the parties who tried them were a guarantee for their accuracy and trustworthiness. They were Mr. Charnock, of Holmfield; Mr. H. Cholmeley, of Brandsley; Mr. T. C. Johnson, of Chenel; Mr. W. Mauleverer, of Aincliffe; Mr. Newham, of Edlington; Mr. Outhwaite, of Bainsesse; Mr. Scott, of Broom Close; and Mr. Wailes, of Hushwaite.

We shall not repeat the valuable tabular results given, the foundation of a vast mass of agricultural information, but simply go through the gross results of the application, as regards weight of crop, with these *four* experiments.

Mr. Cholmeley's turnips, grown on a loamy clay, had the heaviest crop on No. 3, the dung coprolite and guano beating the farm-yard manure by some $5\frac{1}{2}$ tons per acre.

Mr. Johnson's experiments were tried with various manures, singly; and his Peruvian guano gave the greatest weight of the class of substances tried, but 10 cubic yards of farm-yard manure had previously been applied to the whole land.

Mr. Maulevere's heaviest weight, when the manures were also applied singly, was with the 12' tons of dung, but only 14 cwt. more than the dressing with 2 cwt. of coprolites. This soil was a light clay.

Mr. Newham's, on a limestone soil, were the heaviest with No. 3,—the same as Mr. Cholmeley's,—and were 16 cwt. heavier than an application of dung alone.

Mr. Outhwaite's, on a hungry gravel, were the heaviest, with $9\frac{1}{2}$ tons of dung and 2 cwt. of guano, for all the land had been dunged at this rate, and exceeded $14\frac{1}{2}$ tons of dung by 2 tons 9 cwt. per acre.

Mr. Scott's were the heaviest on No. 4,—the guano and coprolites, and 1 ton 7 cwt. more than 20 tons of dung,—his soil was a strong loam.

Mr. Wailes's were the heaviest, with 4 cwt. of guano and 4 cwt. of coprolites, showing an increase over 20 tons of dung of 2 tons 9 cwt. per acre; the soil is a useful loam.

The first fact which strikes the observer is that, as a general rule, there is not only an addition to the crop by the addition of these artificial manures, but there is, in some cases, more absolute crop produced by them than by farm-yard manure alone.

Now, to bring this to the test of figures, the coprolites at £5 per ton, and the guano at £10 per ton, will be at the rate of 2 cwt. of each, £1 10s. per acre. Now, assuming this to be equal to 20 tons of dung per acre, we should require to

be able to produce the dung at 1s. 6d. per ton, to cost us the same money. But it can be neither produced nor purchased at any such money. In the whole of the cases referred to, the manure would be most valuable, and yet we find that hardly in any case is there not an addition to the crop, of say two to three tons of turnips per acre, by such increase of manure. Now, if a ton of turnips be worth 10s., or even 8s., there is at once an element of repayment; for, if a soil is in a condition to give a large crop of turnips, it is almost certain to be capable of giving a large crop of any other plant to succeed.

Mr. Charnock,—whose turnips, however, in the severe insect season of 1851, suffered from the fly, so as to render the trial unfit for a test,—gives it as the result of his practical experience, that 4 cwt. of Peruvian guano, without manure, is the cheapest and best mode of growing turnips; but the general testimony seems to be decidedly in favor of what all farmers find it the best and easiest to do, viz., to add a *small quantity of artificial manure* to the manure which the farm will supply, and so to spread the whole manure over the land, rather than put all the dung in one place, and the rest to be manured with artificials alone.

After such a statement we think there can be but one opinion of the value of guano, *seven dollars and fifty cents'* worth being equal in England to twenty tons of manure. According to this writer, the manure must cost only *one shilling and sixpence per ton*, to be worth as much as guano. Now as three tons of manure are about equal to one cord, and as it costs with us at least four dollars per cord, it follows that in manuring one single acre of land with three hundred pounds of guano, costing \$7 50, the round sum of *sixteen* dollars is saved; showing that guano at \$2 50 per hundred is as cheap as manure at 87½ cents a cord, not the cost of hauling it on to the land.

If, after such evidence as this, farmers will continue to buy ashes at eight cents a bushel, or manure at three to six dollars a cord, including carting, and use them alone, then let

them do so, but they should not complain that their crop costs more than it comes to. To orchardists and fruit growers this information is of the greatest value, and we trust they will not let it pass unheeded.

ART. II. *Notice of a Visit to the Syracuse Nurseries of Messrs. Thorp, Smith, Hanchett & Co.* By G. BAILEY McINTOSH.

HAVING a few leisure hours at my disposal, I recently paid a visit to the Syracuse Nurseries, Messrs. Thorp, Smith, Hanchett & Co., proprietors. These nurseries are situated on West Genesee Street, and are one mile from the Syracuse Railway Depot. On entering the grounds a person is impressed with the skill and taste displayed in the Ornamental Department. On your left is a large border planted with every kind of roses worthy of cultivation; they are in a fine condition, but amongst the many really beautiful rosés stands preëminent their new seedling rose *Augusta*; but no description of mine can do justice to this rose. It is a double yellow *Noisette*. The foliage of the largest size, deep green on the surface, underneath of a beautiful red, margined with a deep purple stripe. It flowers in clusters; the clusters consist of from three, to five, seven, nine or eleven perfectly formed flowers. The flowers are very large, very double, and of a beautiful yellow, with a most delicious fragrance. It flowers from spring to fall. The habit of the plant is of the most robust kind, sending up shoots quite astonishing. Altogether this rose will create "a perfect *furor*" amongst rose amateurs.

On the right of the entrance are several beds and borders planted with petunias, verbenas, geraniums, carnations, dahlias, &c. The beds of petunias are planted with the best kinds, and are very showy; but the verbenas are a perfect blaze of beauty, and comprise every new and old kind worthy of a place in a garden; and in justice to the seedlings

of Messrs. Hovey & Co., I must say that they are not surpassed by any other kind. The carnations are also in full bloom, and they have a beautiful collection, amongst which is a new seedling, which I consider the best of any, and it will be found to be a great acquisition. Altogether the show of flowers is as fine as ever it has been my fortune to see in any place.

The greenhouse is a fine span-roofed building, 117 by 25 feet; but such is the demand for plants, that they have none of those long naked specimens of plants so common in many establishments. Want of space compels me to pass over the many rare and beautiful plants they possess. Their stock of fuchsias, camellias, chrysanthemums, &c., is extensive and select. Their propagating house is also span-roofed, and is 50 by 17 feet. The extent of the nursery here is 10 acres, and is planted with evergreen and ornamental trees, and shrubs and fruit trees. The cherry trees are the finest for their age, I believe, in the Union; they are now in the second season of their growth from the bud, from 8 to 9 feet in height, having grown 6 feet the first season. The pear trees of the same age are now from 4 to 6 feet in height. There is also some fine dwarf pears which have a fine crop of fruit on. The apples and other trees are in fine condition also. The whole of this, the Home Department, is under the management of Mr. Fahnestock, who is well known for his business tact, and he spares neither time nor trouble in showing every visitor everything worth seeing, and from his agreeable manner and gallantry, is a special favorite with the ladies of Syracuse.

Their other nurseries contain about 130 acres, planted with all kinds of fruit trees; they chiefly consist of apples, pears, and cherries; they are in excellent condition and are making fine growth, although the season is so dry. The ground is constantly stirred, weeds being here the exception instead of the rule. The whole of the department is under the management of Mr. Smith, and certainly is a credit to him. As I fear I would be trespassing too much on your time, I must close my remarks.

Syracuse, July, 1852.

ART. III. *On the Cultivation of the Fig under Glass.*
From the Journal of the London Horticultural Society.

More has been written on the culture of the fig. In England it is an indispensable fruit on the tables of the wealthy, and it is raised to a great extent: a fig house being as common in extensive ranges of forcing houses as a peach house.

We have already given our readers several articles on the growth of the fig in our previous volumes, and we now add another from the *Journal* of the Horticultural Society, of 1851. The fig is yearly becoming more cultivated in our own gardens, and amateurs are seeking for information upon its treatment. Thoroughly ripened, the fig is a delicious fruit, and we have no doubt in a few years it will be generally grown in all collections where there are graperies for their protection.

It is well known that the fig is a most rapid growing tree, throwing up strong suckers, which produce fruit the same year. But notwithstanding this, most writers recommend a good rich soil for their growth. It will be noticed that in the following article the soil is considered as of little consequence, and that the "least imaginable quantity of earth upon a well drained hillock of brickbats and old mortar rubbish" is ample. We have found this to be true in our own experience. We have a tree of the Black St. Michael, which was planted in an old greenhouse, next to the back wall, upon a mere hillock of common soil, and this tree constantly requires lopping to prevent the branches from extending out the top of the house, which is fifteen feet high. It always bears a full crop:—

Those persons who have only tasted this fruit when ripened on the open wall in the generally sunless climate of this country, have but little idea of its excellence when perfected under brighter skies and more genial solar influence, or assisted by glass and fire-heat. In addition to the

certainty of getting them well ripened under glass, there is the further advantage of securing two crops in the year of rich jelly-like fruit; while those on the external walls frequently (*in dull seasons*) do not ripen well, and are mawkish and insipid. Strange as it appears, the fig is less cultivated in England than it deserves to be, even in our largest establishments. The writer would invite the attention of gentlemen to the propriety and advantage of devoting a portion of their glass to this fruit, which he assures them will gratefully repay any extra care bestowed upon it; and having succeeded in its management, he begs with deference to lay before the society a few hints derived from his own practice and observation.

Three years ago there existed upon a south wall at this place a large fig tree, of the brown Ischia kind, over which it was thought desirable to build a house, which should also be used for the culture of figs in pots, conjointly with that of the tree upon the back wall: the house placed over it being 48 feet long by 13 feet in width, and the fig tree at the present time not only covering that space to a height of 13½ feet, but extending across the ends of the house.

As soon as the house was erected, it became necessary to consider what would be the course of treatment best suited to further the end in view, viz.: by artificially lengthening the period of summer to enable it to ripen the figs produced by the second flow of the sap, which figs do not ripen in the open air in this country, and which Mr. Wickham, in the Transactions of the Society, some years ago, aptly denominated as "*sterilizing incumbrances*."

The tree was trained in the fan-shaped manner, and it was found necessary on re-training it to remove many old and sterile branches to make room for younger bearing wood; this, with the facilities afforded for root extension by the border inside the house not being dug as before, induced a state of luxuriance incompatible with productiveness; and it was found at the end of the first season not to have been so fruitful as it might have been, in other words, it had not yet

highest point to the new circumstances under which I was placed.

A new terrace was thus that some distance back in connection with the main conservatory; in September 1851, a branch was inserted, and every foot was kept off within a circle of 2 feet 4 inches from the centre of the main stem. A wall of bricks was then built round the roots, the moulders of which were filled with concrete. In November the tree was carefully pruned, retaining a good supply of the young wood, and removing a barren old branch occasionally. In training, the joints of the young shoots were reversed: and this expedient, a sort of cat-leaves, about a foot in height, was substituted, placing them upon the surface of the ground at about 5 feet distance from the tree, for the purpose of plunging dwarf figs in pots. The most and general exhibitions from this, when wanted, which was frequently done, were found most congenial to the swelling and bursting of the buds. On the 1st of February, 1851, the fire was lighted, and a humid atmosphere maintained at a night temperature of 55° in very mild weather, and 50° when the external temperature was low. The small compass to which roots were confined was kept well supplied with tepid water, and the figs soon showed themselves abundantly on the ends of the previous year's shoots. During the day the temperature was allowed to rise from 10 to 20 degrees higher than at night, and in dull weather more fire was used during the period of light than in that of darkness. Copious syringings were given in this state; but when the fruit became of the size of walnuts (as they are used for pickling) it was discontinued, being found injurious to its skin from and after that age, turning them black and causing them to rot. As soon as the young growths had extended to three or four joints they were stopped, and soon showed embryo fruits at the axils of every leaf: these have formed the principal crop, but by the time the first crop was over, the shoots which were first stopped began to ripen the second crop, and thus we have had a constant supply of fine fruit up to the time of gathering the first out-of-door ones; and the tree now presents an abundance of

short-jointed well-ripened shoots, at the extremities of which the first crop for next year will be produced.

In the course of treatment pursued I have arrived at the following conclusions:—

1st. That the recommendations of old authors with regard to making borders for this tree are unnecessary, as the largest trees are capable of growing in the least imaginable quantity of earth upon a well-drained hillock of brickbats and old mortar rubbish, or on natural rocks.

2ndly. That although generally considered a gross feeder, soft pond-water in *copious supply* during the swelling of the fruit seems to contain enough of nutritive matter for its demands, as trees treated to the often recommended and potent *liquid manure* have not produced figs equal in size to those I am speaking of. But be it remembered that I speak not of cold spring-water from a pump, but of that from a stagnant pond, softened and chilled by exposure, and presenting an almost *gelatinous appearance from the multitude of animalculæ* with which it is teeming.

3rdly. One difficulty presents itself in the cultivation of figs which I have at last triumphed over. It is well known that the foliage is much subject to the attacks of red spider (*Arurus telurius*), and syringing sharply to keep this pest in subjection is necessary; but after the fruit has advanced to its last stage of swelling, dryness is indispensable to its perfection: bright solar light and an arid atmosphere are the conditions essential to produce well-ripened figs, and the red spider must be kept down by applying sulphur to the flues, or any surface upon which the sun can shine and cause its fumes to be exhaled. So tender is the skin, and such is the disposition of ripe figs to mouldiness, that every vestige of moisture must be avoided during the ripening period; although the root-watering must not cease, it should only be done early in the morning, when the dampness arising from it is soon dispelled by the admission of air.

4thly. There is no fruit more benefited than this by full exposure to light. To insure this it would not be wise to strip off the leaves to some extent, as I have seen practised,

but rather in pruning to preserve only that amount of foliage which can perform its allotted functions properly. Those who would secure the happy medium between luxuriance and languor must have the roots under control.

5thly. The finest figs, and the greatest quantity of them, are produced at the extremities of the longest branches: to increase the amount of such space is most desirable. The fig-tree in question, after reaching the top of the house, is incurved under the top light about eighteen inches: this gives great facility for getting well colored fruit without shading the tree. I was led to adopt this plan from seeing the fine productive state of the figs trained under the roof of a house at Lord Ashburton's seat, The Grange.

6thly. One word on figs in pots. I have found the best kinds for this purpose to be the *Violette*, *White Marseilles*, *Black Marseilles*, and *Lee's Perpetual*.

After they have filled the pots with roots in which it is intended to fruit them, they should annually have a portion of their roots pared away, and be repotted in *good* loam, lime-rubbish, and dung. They should be plunged in a gentle bottom of heat on a bed of leaves, be well supplied with water, and constantly pinched to make them bushy and full of short spurs. It is disadvantageous to place them under the shade of vines, and it may be laid down as an axiom in fig culture, that they cannot have too much sun in the British Isles.

The fig-tree in question ripened its first fruit on the 25th of April, from which period it has gone on bearing till the present time, August 26, and it has now many dozens to ripen, which assisted by fire-heat, will continue till November.

August 26th, 1851.

ART. IV. *Descriptions and Engravings of Select Varieties of Cherries.* By the EDITOR.

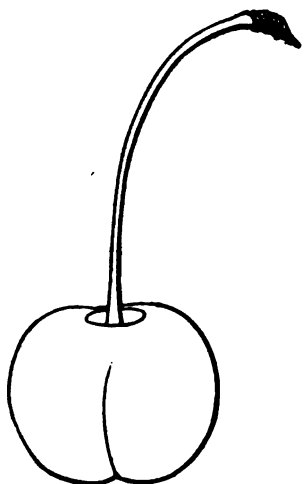
WE have taken especial pains to make a complete collection of cherries, and have upwards of seventy varieties; and

of more than two thirds of them, the trees have arrived at a bearing age. But the birds have become so numerous and destructive, that we have found it difficult to procure a single fruit of many of the kinds. This year we intended to net over many of our trees, but unfortunately the severe winter sadly damaged the flower buds, and on many of them not a single fruit appeared; such as have borne, with the exception of the Morello class, have had such a scattering crop, that it would hardly pay for the labor of netting them up. We are consequently unable to add but a few drawings to our *portfolio*, until the return of another season.

We now continue our descriptions from our last volume, (XVII, p. 73,) and have the pleasure of adding a drawing of one of M. Esperin's new sorts, the Bigarreau d'Esperin, a large handsome and excellent fruit, and a fine acquisition to every garden. Indeed it is the only cherry received from foreign cultivators the last few years that is really worth preserving.

16. BIGARREAU D'ESPERIN.

This fine cherry, (*fig. 24*,) is one of the seedlings said to have been produced by the late M. Esperin, of Belgium. It



has now borne in our collection for two years, but we were not aware of its excellent merits till this season. It is a cherry of the largest size, of a clear transparent skin, and of a superior quality, partaking somewhat of the character of the May Duke: having the brisk sub-acid flavor of that old variety. The tree has a compact, rather spreading habit, is of moderate growth, and a good bearer.

Size, large, about one and an eighth inches broad, and seven

Fig. 24. Bigarreau d'Esperin Cherry. eighths of an inch deep; *Form*, roundish heart-shaped, depressed at both ends, slightly flat-

tened on the sides, with a distinct suture entirely round; *Skin*, thin, transparent, clear soft amber in the shade, finely and most beautifully mottled with pale red in the sun; *Stem*, long, about two inches in length, slender, and inserted in a large, rather deep cavity; *Flesh*, pale amber, tender, very juicy, vinous, brisk and excellent; *Stem*, medium size, roundish oval, separating very freely from the flesh. Ripe from the beginning to middle of July.

17. **BIGARREAU COULEUR DE CHAIR.** *Hort. Transactions*, Vol. VIII, p. 269.

Flesh colored Bigarreau.

Gros Bigarreau Couleur de Chair, } Noisette.

Gros Bigarreau Blanc,

Large Heart-shaped Bigarreau. Manning in *Mag. of Hort.*, Vol. VIII.

Bigarreau à gros fruit blanc.

Bigarreau de Rocmont,

Cœur de Pigeon,

Bigarreau Belle de Rocmont,

Guigne gros blanche, (of some,)

Bigarreau Common, (of some,)

Belle Audigeoise, of the French collections.

} Acc. to Hort. Soc. Catalogue.

This fine cherry, (*fig. 25*.) is not very common, though deserving extensive cultivation. Mr. Manning was the first, we believe, to disseminate it extensively here as the Large Heart-shaped Bigarreau, under which name he described it in his list of forty-four varieties which he fruited in his collection, (Vol. XVIII, p. 281.)

This cherry is one of the most distinct varieties. In form it is peculiar, being of an oblong heart shape, tapering very much to the point. The tree forms a good pyramid, with rather pendulous branches, similar to the Elton, but with smaller leaves. It is also a good bearer and hangs well upon the tree.

Size, large, about seven eighths of an inch long and seven eighths of an inch broad; *Form*, oblong heart-shaped, broad

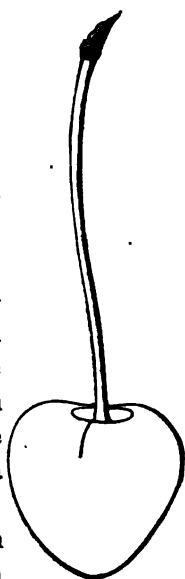


Fig. 25. Bigarreau Couleur de Chair.

at the base, suddenly tapering to the point, which is small, compressed a little on the sides, with a distinct suture half round; *Skin*, pale waxy white in the shade, marbled with pale and rather dark red in the sun; *Stem*, long, about two inches in length, rather slender, and inserted in a rather deep broad cavity; *Flesh*, amber colored, half tender, very juicy, rich, high flavored and delicious; *Stone*, medium size, ovate, narrowing much to the point. Ripe the beginning of July.

18. **BLÁCK TARTARIAN.** Hort. Soc. *Catalogue*.

Tartarian,
Fraser's Black,
Fraser's Tartarian,
Fraser's Black Tartarian,
Fraser's Black Heart,
Ronald's Black Heart,
Ronald's Heart,
Ronald's Large Black Heart,
Circassian,
Black Circassian,
Superb Circassian,
Black Russian,

Acc. to Hort. Soc. *Catalogue*, 1842.

A cherry so popular as this old variety, (*fig. 26,*) it would appear almost superfluous to describe. It has been cultivated in our gardens for nearly half a century, and is a familiar cherry to the old pomologist; to others, and especially amateur fruit cultivators, the Black Tartarian is still imperfectly known, and it is for their information that we give a full account of it.

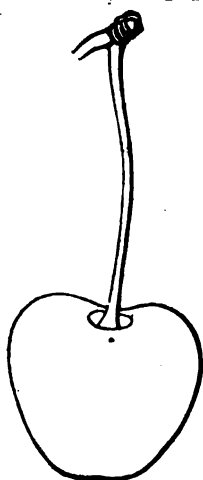


Fig. 26. Black Tartarian Cherry.

Many new cherries have recently been added to our collections, yet it is somewhat doubtful whether any one of them is superior in all respects to the Tartarian. At any rate it is still *one* of the best we have, and though it may have some equals, rare indeed are those which surpass it.

The Black Tartarian was first introduced to England in 1792, by Mr. Turner, who brought the trees from St. Peters-

burgh. Mr. Ronald's nurseryman, of Brentford, London, imported it from Circassia, in 1794; it is also stated that it originally came from Spain. It was soon after introduced into our gardens, and for upwards of forty years has been found in choice collections of this fruit.

The tree is a vigorous grower, of an erect, regular, pyramidal and handsome habit, and an abundant bearer.

Size, large, about seven eighths of an inch long, and an inch broad; *Form*, obtuse heart-shaped, broad at the base, narrowing much on the sides to the point, which is small; surface uneven, with a distinct suture running half round; *Skin*, very dark red, becoming of a deep glossy black when fully ripe; *Stem*, medium length, about one and a half inches long, stout, and rather deeply inserted in a small, deep cavity; *Flesh*, dark purplish red, half tender, very juicy, rich, sweet, high flavored and delicious; *Stone*, medium size, roundish ovate. Ripe the last of June and beginning of July.

ART. V. *Descriptions of Twenty-six New Varieties of Herbaceous Pæonies.* By the EDITOR.

IN one of our early volumes of the Magazine (III, p. 283) we gave a full description of all the herbaceous pæonies then cultivated, with remarks on their propagation, growth, &c. Since then, now fifteen years, a great number of new kinds have been raised by the French and Belgian amateurs and florists, and many of those which we described, being single, have been discarded altogether, and their places filled with the newer and far more beautiful seedlings.

It is somewhat remarkable that English cultivators have not given more attention to the pæony. We believe that of the new sorts which have been brought to notice, not more than one or two have been raised in England. The French began the production of seedlings, and M. Modeste sent the late Mr. Loudon several of his varieties, which were noticed in the *Gardeners' Magazine*; but they seem to have attract-

ed little or no attention; for the English catalogues, up to the present time, do not contain more than a dozen of the new and fine sorts, while the French and Belgian cultivators enumerate upwards of fifty.

No plant makes a more splendid display in the garden than the pæony, particularly the large double and showy sorts. *Hûmei*, *Pöttsi*, *Whitleji*, *frâgrans*, &c., are well known, and are among the finest hardy plants. But many of the new seedlings far excel these in beauty; and some of them blooming earlier, and others later, keep up the display for a long time.

To bloom the pæony in perfection, it is requisite that the plants should be strong and well established; but as many of the new ones have only been introduced at a high price, and consequently rather small plants, we have not been able to see our collection in fine condition until the present year: and with the hope that they may become better known, and soon find their way into every garden, we add brief descriptions of twenty-six varieties.

Some very fine seedlings have been raised by our own amateurs. Messrs. Cabot and Putnam, of Salem, and Mr. J. Richardson, of Dorchester, have each raised quite a number of plants, and among them a few very superb kinds; they have not, however, we believe, been increased sufficiently to find their way into the trade. In a few years, no doubt we shall find the production of seedlings as common with our amateurs as the growth of seedling camellias or azaleas. If accompanied with the same success, there will be little need of importing the productions of our transatlantic friends.

The following is the list of such as have bloomed freely. Those designated as large, double and full, are similar in appearance to *Whitleji* and *Hûmei*; the others have generally an outer row of large petals, and the centre is filled with larger or smaller narrow ones, which give them somewhat the appearance of an anemone. They are all beautiful, but the full double flowers make the greatest display:—

1. *ANEMONEFLO'RA A'LEA*.—Outer petals, very large, of a fine white; centre ones, narrow, of a creamy yellow; stigma, rose.

2. *ANEMONEFLO'RA STRIA'TA*.—Outer petals, very large, rosy violet; centre ones, small, rose and salmon; those in the middle, elevated, forming a compact tuft at the summit.

3. *BICOLOR*.—Outer petals, medium size, yellowish white; centre ones, narrow, little fimbriated; stigma, carmine.

4. *BUYCKII*.—Outer petals, medium size; those of the centre regularly arranged, forming a globular flower, very full; color, a beautiful rose, with a few of the centre petals shaded with salmon. A most superb variety.

5. *DUCHESS DE NEMOURS*.—Outer petals, large, of a clear violet; centre ones, narrow, lilac, fringed.

6. *EDULIS ALBA*.—Outer petals, pale blush; centre ones, white, shaded with purple. Flowers, large and full, like the old *edulis*, (or *fragrans*.)

7. *EDULIS SUPERBA*.—Outer petals, large; centre ones, numerous, forming a globular flower; color, beautiful rose, lightly shaded with violet, and intermixed with whitish lines. A superb variety.

8. *ELEGANS*.—Outer petals, large, blush white; those of the centre, yellowish, intermixed with some long narrow ones; stigma, carmine.

9. *FESTIVA*.—Flowers, very large, of a pure white, with the centre petals tipped with carmine; form, exquisite, perfectly globular, and full to the centre. This is the most magnificent of all the pæonies, the slight touches of crimson, at the summit of the centre petals, having an admirable effect on the pure white ground.

10. *FORMOSA*.—Flowers, large, full, globular, of a yellowish white; stigma, bright rose. A fine variety.

11. *GRANDIFLO'RA CA'RNEA PLE'NA*.—Flowers, very large, full, globular; petals, large, blush white. A superb variety.

12. *GRANDIFLO'RA NI'VEA PLE'NA*.—Flowers, very large, double and full, pure white; often several of the petals in the centre are edged with carmine. This is another splendid variety.

13. *HERICARTIA'NA*.—Outer petals, large, of a beautiful violet rose; those of the centre, narrower, of a rose and salmon color mixed.

14. *HUMEA A'LEA*.—Flowers, large, double, full, and globular, of a fine white, without stigmas. A splendid variety.

15. *LADY DARTMOUTH*.—Flowers, large, double and full, pure white, sometimes stained with purple; petals of the centre intermingled with some long narrow ones; stigma, purple. A superb variety.

16. *LILACINA SUPE'RBA*.—Outer petals, large; those of the centre, narrow and long; color, uniform lilac.

17. *LUTEA VARIEGATA*.—Flowers, medium size; outer petals, pale blush; centre ones, yellowish.

18. *PAPAVERIFLO'RA*.—Flowers, large, full and double; color, white, slightly marked with yellow; petals in the centre bordered with carmine at their summit. A splendid variety.

19. *PLENISSIMA ROSEA SUPE'RBA*.—Flowers, large, double and full; the petals regularly arranged, of a beautiful rose, intermixed with salmon. A superb variety.

20. *PROLIFERA TRICOLOR*.—Outer petals, clear flesh color; those of centre, yellowish white; stigma, purple; occasionally the petals in the centre are elongated, and form a handsome tuft. This is a beautiful variety on account of its deep yellow shade. It is not very large nor full double.

21. *QUEEN VICTORIA*.—Outer petals, large, white, slightly shaded with rose; those of the centre, narrow, yellowish, and fringed; stigma, purple.

22. *REINE DES FRANCAIS*.—Flowers, very large, double and full; outer petals, rose; those of the centre, shaded with rose, and yellowish in the middle. A beautiful variety.

23. *SULPHUREA*.—Flowers, large, double and full, yellowish white. A superb variety.

24. *TRIUMPHANS*.—Outer petals, of a lilac rose; those of the centre, intermixed with long narrow ones, nearly white.

25. *TRIOMPHE DU NORD*.—Flowers, very large, full and double, of a rosy violet; some of the narrow petals in the centre, lilac. A superb variety.

26. *VICTOIRE MODESTE*.—Flowers, large, double and full; outer petals, of a beautiful rosy violet; those in the centre, having each a large salmon line running through them.

Many others will flower another season, when we shall endeavor to add them to this list.

ART. VI. *Floricultural and Botanical Notices of New and Beautiful Plants, figured in Foreign Periodicals; with descriptions of those introduced to, or originated in, American Collections.*

ALLAMA'NDA SCHOTTII AND GRANDIFLO'RA.—These two superb species have recently flowered in our vicinity, the former in our collection, and the latter in that of J. P. Cushing, Esq., a fine specimen of which was recently exhibited at one of the shows of the Massachusetts Horticultural Society, by Mr. Schimmin, the gardener. It has very large, yellow, trumpet-shaped flowers, which appear in huge clusters. *A. Schottii* is similar to the *grandiflora*, but the yellow is a little deeper, and the shape of the flower slightly varied. Both are among the most beautiful climbing plants for the summer greenhouse, their large clusters of deep yellow flowers giving a gayness to the whole collection.

DIPLADENIA SPLE'NDENS. This lovely climbing plant was exhibited in fine order, on the 17th of July, at the weekly show of the Massachusetts Horticultural Society. The specimen was from Mr. Cushing's garden, and was the most exquisite thing we have recently seen. All the *Dipladenias* are beautiful, but this excels them all. The flowers are produced in clusters of five or six, each full three inches in diameter, and they are of the most exquisite transparent deep blush or rose tint; grown with the golden *Allamandas*, the waxy *Stephanotus*, and the crimson *Ipomæas*, the contrast in color is charming. It is one of the most desirable plants of recent introduction.

DIPTERACA'NTHUS SPECTA'BILIS.—This is a new stove or summer greenhouse plant, related to the *Ruellias*, but with large, very dark blue flowers, of the size of a petunia. It is a vigorous growing and neat plant, and its very dark flowers have a conspicuous appearance among other plants. We think it will succeed finely bedded out; if it does, it will become a most popular plant. It grows as readily as *Ruellia formosa*.

ACHI'MENES LONGIFLO'RA A'LEA.—This elegant variety, which we have already noticed, (Vol. XVII, p. 324,) is now in bloom in our collection. It is a great addition to this tribe. This and *A. gloxinæflora* are two of the finest which have yet been introduced. No collection can be complete without them.

ALSTROMERIAS, SPARAXIS, IXIAS, AND GLADIOLI, AS FRAME PLANTS.—In England it is the usual plan to cultivate these showy and beautiful bulbs in the open ground, merely giving them the protection of a frame. Last season, Mr. Everts, foreman at Mr. Cushing's, Watertown, tried a collection of them in the same manner, viz.: planting in a rich, well drained border, and protecting them with a frame and a thick covering of leaves: they have succeeded admirably, and are now in full bloom. The *Alstromerias* are some of Van Houtte's seedlings, and present a splendid array of bloom. Few bulbs afford more satisfaction than the *Sparaxis*, and *Ixias*, and if they can be grown in this way, every garden of moderate extent should have a small but pretty collection.

NEW GLADIOLUSES.—The French cultivators have produced some new seedlings from *G. gandavensis*, partaking of the habit and hardiness of that fine kind. Their names are *Apollo*, *Eugenia*, and *Ulysse*. We shall soon have them in flower, and will give a description of them.

182. **BE'RBERIS WALLICHIA'NA** *De Cand.* Dr. Wallich's Berberry. (*Berberidæ.*) Nepaul.

A half hardy shrub; growing six to ten feet high; with yellow flowers; appearing in spring; increased by layers; cultivated in good rich soil. *Bot. Mag.*, 1852, pl. 4656.

A new and pretty species of the Berberry, which it is expected will prove hardy in Great Britain, and perhaps in our own climate, as it is from the summit of the mountain Sheopur, in Nepaul. "It is a most ready flowerer, producing blossoms in April, when not more than eight or ten inches high in small pots." The leaves appear in alternate fascicles, two or three inches long, nearly sessile, and are evergreen. The flowers spring from the centre of these fascicles in dense peduncles, drooping, six to eight or more in a cluster.

For pots it is a pretty evergreen shrub, and if hardy, will be a great acquisition. (*Bot. Mag.*, July.)

183. RHODODE'NDRON LEPIDO'TUM Wallich. Scaly Rhododendron. (*Ericæ.*) Sikkimhimalaya.

A half-hardy shrub; growing four feet high; with purple flowers; appearing in spring; increased by layers; cultivated in heath soil. *Bot. Mag.*, 1852, pl. 4657.

A small flowered species of the Sikkim rhododendrons, with narrow, delicate foliage, attaining the height of four feet. It was found by Dr. Hooker, at an elevation of 14,000 to 15,000 feet, in moist valleys, where it forms a stout tortuous stock, with branches as thick as a crow's quill, rather scattered, bearing tufts of branchlets at the top. Flowers purple, half an inch across. It possesses but little beauty compared with the large flowered species. It is the same as the *R. elæagnoides*, of Dr. Hooker's work, which he has since ascertained is the same as *R. lepidotum*, of Wallich. (*Bot. Mag.*, July.)

184. CEANO'THUS VERRUCO'SUS Nuttall. WARTED CEANO'THUS. (*Rhamnæ.*) California.

A hardy(?) evergreen shrub; growing about four feet high; with blue flowers; appearing in April and May; increased by layers; cultivated in any good soil. *Bot. Mag.*, 1852, pl. 4660.

A beautiful evergreen species of the *Ceanothus*, which has proved hardy in England, and will probably prove so in our gardens, at least south of Philadelphia. Mr. Nuttall originally found it in his northwest tour, at Santa Barbara, in Upper California. The plants grow erect, much branched; leaves opposite; and the flowers appear in dense corymbs from the ends of the lateral shoots; they are of a pale purplish blue. It is well worthy of introduction. (*Bot. Mag.*, July.)

ART. VII. Notes on Gardens and Nurseries.

RESIDENCE OF J. D. BATES, Esq., PHILIPS'S BEACH, JULY 16TH.—Two years ago we gave a brief account of Mr. Bates's place, and the manner in which he had improved a bleak

situation on the seacoast; previously we had noticed Mr. Tudor's garden at Nahant, and the improvements effected there. In each instance we endeavored to show how much might be accomplished, if rightly commenced and carried on, in planting and ornamenting the many seaside residences which now skirt the Atlantic. The sea air, the spray from the water, and the bleak winds, have each and all been supposed to be obstacles which could not well be overcome; at least, without delay and expense; and it is to show that such is not the fact, from the actual inspection of what has been done, and may be done again, that we are particular in noticing these improvements, aside from the intrinsic beauty which a tasteful arrangement has added to each.

Since our previous visit, Mr. Bates has enlarged his grounds by removing some buildings between his land and the road. This, to the extent of two or more acres, is now an open lawn and garden, with a pretty rustic lodge and entrance gate on the right, connecting with the old avenue. On the lawn, Mr. Bates now contemplates erecting a span-roofed greenhouse and grapery; the situation is a good one, and will add to the completeness of the place. A handsome rustic fence skirts the boundary on the main road to the beach. It is made of common spruce poles, two inches in diameter, nailed to a top and bottom rail, as in the ordinary way; the whole is then done over with oil, which adds to its preservation, and does not materially change the natural color of the bark; the top is sawed in a serpentine form. The gate corresponds with the paling; the posts being handsomely paneled with rustic work. Everything is in good taste, and in keeping with the character of the place, which owes its great attractions to the natural beauty of the situation and the good judgment of the proprietor, who has preserved all this, and made no attempt to destroy it by the substitution of art.

Great numbers of trees have been planted, and already, next to the road, there is a handsome belt of foliage, though set out only a year ago. The trees are principally American elms, Norway maples, American Lindens, sycamores, oaks,

and, for evergreens, the Scotch fir, which Mr. Bates has found easy to grow, compared with others. Many specimens are scattered through the grounds which are now five feet high, though only planted four years ago, directly in the grass, and among the *vacciniums*, *berberries*, and wild roses, which make part of the undergrowth. And this leads us to notice the *berberries*, of which there are several fine large bushes directly in front of the house, on the rocks, almost overhanging the water. Many persons would have destroyed them at once, as they would be *too common*; but cleared annually of the dead spray, and pruned up neatly at the bottom, they form circular clumps of foliage, whose branches are filled with gay yellow flowers in spring, and whose stems depend on the ground in autumn, when laden with their rich coral fruit. As an ornamental shrub, it is worthy of introduction into every plantation. All the trees planted seven years ago, when the place was laid out, have grown very rapidly, and completely shelter it from the east and north winds.

The exceedingly dry weather of the season had parched up the lawn, checked the growth of the trees, and destroyed much of the beauty of the flower garden. The dahlias were just beginning to bloom, and the verbenas, though in flower, were not so showy as generally at this season. The fruit trees were in full bearing, but suffering from the dry weather.

As a seaside residence, to be enjoyed during the hot days of summer, and kept in fine condition without much care or expense, we think Mr. Bates's one of the most picturesque and beautiful in our vicinity, and his efforts are well worthy of imitation by all who have similar situations.

RESIDENCE OF MR. S. DOWNER, JR., DORCHESTER.—Mr. Downer's place is situated on the lower road to Dorchester Mills, about three miles from the city. It is about four acres in extent; but in this small space he has hill and dale, and every variety of surface. The house,—the main part of which was built more than one hundred years ago,—by the additions and alterations made by Mr. Downer, is now a neat and convenient cottage. It stands upon the edge of a cliff,

overlooking the fruit garden to the east ; and in front, to the south, the ground rises rapidly to the summit, which is fifty or sixty feet above the lowest part. From this point a pleasant view is obtained of the bay.

When taken possession of, by Mr. Downer, nine or ten years ago, it was scarcely anything more than a ledge of rocks. On one small spot of quarter of an acre, now covered with plants and trees, more than six hundred dollars' worth of stone, suitable for building, were blown out. The fruit garden was then a mere ravine ; but by carting in *six hundred* loads of sand, trenching and manuring, it has been made one of the most fertile spots we have ever seen. A perpetual spring, belonging to the town, and free to all who wish to use it, rises within three feet of the surface ; and, except in the driest seasons, such as the present, a stream of water constantly runs through the length of the garden, imparting a freshness and coolness to the atmosphere highly valuable to the growth of the trees.

Mr. Downer has, with excellent taste, taken advantage of all these natural resources of his situation. The highest part of the grounds is laid out in such a manner as to afford space for fruit trees on the level spots, while all the rocky places have been left with their natural growth, and the cavities filled in with Norway spruces, hemlocks, and *Arbovitæ* ; on the crevices of the ledge, where there was room for a few baskets of soil, this was supplied, and planted with evergreens. The effect is delightful ; we wander through thickets of berberry and wild roses, the spontaneous growth of the place, and then through walks bordered with a handsome growth of Norway spruces and hemlocks ; up the body of a native elm climbs that pretty but neglected runner, the *Celastrus scandens*, or Roxbury waxwork, as it is generally called ; and over the surface of exposed rocks, creeps the *Ampelopsis quinquefolia*, or Virginia creeper.

The fruit garden is separated from the other part of the grounds, its whole length, by the ledge on which the house is built ; and the embankment, except immediately in the rear of the house, which has been terraced up, is covered

with a thick growth of trees, including spruces, pines, hemlocks, rhododendrons and kalmias. It is reached from the cottage entrance by a flight of steps, and from the opposite end of the house by a steep but circuitous walk down over the rocks. It is completely sheltered on all sides.

Mr. Downer's collection of pears is not extensive as regards variety, as he has confined himself, very properly, to the most select kinds; but the number of trees is large, and they are planted about eight feet apart each way. The oldest trees, planted eight years, are remarkably fine specimens. They are trained in the pyramidal form, though not branched so low as we like to see them; but in other respects they are fine examples of judicious pruning. All of them, with few exceptions, are full of fruit, and in September must have a splendid appearance. Already the Duchess, Beurré Diel, Andrews, Bartlett, and others, had swelled up their fruit of good size, from the nature of the situation, which the drought affects but slightly. Mr. Downer, however, does not leave all to nature; the contents of the cesspool are poured upon the trees as often as it accumulates, and its effects are plainly visible. The success shows plainly, that to produce fine fruit, a trenched soil, well enriched, and well supplied with moisture, is the situation for pears; without all these, only mediocre fruit can be expected.

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

MANURING FRUIT TREES.—The Dutch, who are admirable gardeners, had, in the Great Exhibition, an instrument called "Earth borer," for manuring fruit trees without digging the ground. A circle of holes is bored round the tree, at 2 feet distance from the tree, and a foot from each other. Taking the tree at a foot diameter at the surface of the soil, the circle will be 5 feet diameter and 15 feet circumference: and if the holes are 3 inches diameter and a foot apart,—15 inches,—there will be about 12 holes; more or less according to the diameter of the tree. They are 18 inches deep, (where there is enough depth of soil,) and slanting towards the centre; are filled with liquid manure, diluted more or less in dry weather, and stronger as the weather is wetter. For the time of application, Dr. Lindley tells us (*Gard. Chron.*, Feb. 21, 1852,) "For fruit, the proper time for using liquid

manure is when the fruit is beginning to swell, and has acquired, by means of its own green surface, a power of suction capable of opposing that of the leaves. At that time, liquid manure may be applied freely; and continued, from time to time, as long as the fruit is growing. But at the first sign of ripening, or even earlier, it should be wholly withheld." "If liquid manure is applied to a plant when the flowers are growing, the vigor which it communicates to them must also be communicated to the leaves; but when leaves are growing unusually fast, there is sometimes a danger that they may rob the branches of the sap required for the nutrition of the fruit: and if that happens, the latter falls off." "And we all know that when ripening has once begun, even water spoils the quality of fruit, although it augments the size; as is sufficiently shown by the strawberries prepared for the London market by daily irrigation; great additional size is obtained, but it is at the expense of flavor: and any injury which mere water may produce will certainly not be diminished by water holding ammoniacal and saline substances in solution." (*Gard. Jour.*, 1852, p. 222.)

ART. II. Domestic Notices.

CITY MODE OF PRUNING TREES.—Mr. Editor: Knowing that you take much interest in everything relating to the arboricultural affairs of the city, allow me to call your attention to the barbarous spoliations at present being committed on the fine Elm trees on Washington street, especially on the Neck, under the specious pretence of *pruning*, so I presume; but assuredly no one, in the smallest degree conversant with the growth and management of trees, can behold the wanton destruction of these important adjuncts of street ornament and comfort, without deeply lamenting the utter want of skill and judgment exhibited by those who have the care of them. Without entering on the propriety or impropriety of decapitating large trees in July, (a subject which I leave to your better judgment to speak upon, in some of your future editorials.) I will just notice the *modus operandi* of the present proceeding against those inoffensive and useful street scavengers, as they have been daily committed during the past three weeks, much to the annoyance and distress of all pedestrians, and especially every one who has any taste for the beautiful in nature, and any desire for the luxury of shade in these hot, scorching days, when it is truly a luxury to get beneath the cool branches of a tree, and more particularly while walking on the hot sidewalks. The operators get on ladders, and saw off every branch and twig to a height of thirty feet or more, according to the size of the subject. Then, leaving two or three (in some instances only one) of the remaining limbs, they denude them of every leaf, bud and branch, as far as they possibly can reach or climb, leaving only a few tufts, or rather, I should say, a few wretched, miserable twigs at the extremities of the naked branches. Quite a number of the most beautiful and promising specimens on the Neck have been thus *pollarded* within the last fortnight, and some handsome trees

have been quite decapitated, where they had abundance of room and nourishment, and where they were most required,—for instance, some in the vicinity of Franklin square, with beautiful healthy heads, have been cut entirely down; and on making inquiry for the cause, the perpetrators of this outrage on common sense, could give none, but just that *somebody* said they must be cut down, for why, we could not discover.

Now, sir, I have been taught, and believe, that the evaporation caused by capillary attraction from amputated limbs of trees, is much more injurious to them than the evaporation from their leaves during hot sunshine; and hence, even were it necessary to the well-being of the trees, this circumstance of excessive elaboration could afford no pretext for such unseasonable pruning;—in fact, after much inquiry and cogitation, we are quite unable to discover the slightest reason why it is done. Nor can any plausible reason be assigned, by the ignoramuses employed in this barbarous business, for pollarding the trees to the top, like a lady's parasol stuck on a liberty pole; for had the object been to prevent excessive evaporation from the surface of the leaves, or to reduce the head for other causes, surely a very different method of pruning—if *pruned they must be*, at this season—would have been more conducive to the end in view.—Respectfully yours, CIVITAS. *Boston, July 24, 1852.*

ART. III. *Horticultural Societies.*

ANNUAL EXHIBITION OF THE AMERICAN INSTITUTE.—The premium lists of the Agricultural, Horticultural, and Floral departments, of this flourishing association, have been issued; and we are gratified to see the increasing interest which is manifested in the culture of fruits, flowers, and vegetables. The premiums are more in number, and of larger amount, than in previous years; and we should suppose that an active competition would be the result. We have not room for the whole list, but we annex the following:—

FRUITS.

- Collections.**—For the best collection of fruit, of all kinds, silver cup, ... \$15 00
 For the second best, the same, ... 10 00
 For the third best, ... Silver medal.
Apples.—For the greatest variety, silver cup, ... 8 00
 For the second best, ... Silver medal and three other prizes.
Pears.—For the greatest number, a silver cup, silver medal, and five other prizes.
Grapes.—Four silver medals and eight other prizes; with numerous prizes for other fruits.

FLOWERS.

- Dahlias.**—For the largest and best display, silver cup, . . . \$15 00
 For the second best, the same, ... 10 00

For the third best, the same, ...	\$8 00
and eighteen other premiums.	
<i>Roses, &c.</i> —For the best display, silver cup, ...	8 00
and four other prizes.	
<i>Bouquets.</i> —Best display, silver cup, ...	8 00
and five other prizes.	
<i>Floral Designs.</i> —For the best, silver cup, ...	10 00
For the second best, silver cup, ...	8 00
and two other prizes.	

VEGETABLES.

<i>Collections.</i> —For the best display, silver cup, ...	8 00
with a great number of other prizes.	

Articles must be delivered at Castle Garden on or before Monday, October 4th, to meet the arrangements for general exhibition. All productions must be the growth of the competitors.

NEW YORK HORTICULTURAL SOCIETY.—The first semi-annual exhibition of this new society was held in Metropolitan Hall, Broadway, on Wednesday, Thursday, and Friday, June 10, 11, and 12. According to the report in the *American Gardeners' Chronicle*, the display was a very fine one and highly creditable for a beginning. Over *twenty-three thousand* persons visited the exhibition during the three days. The principal object of attraction was a specimen of the *Victoria regia*, sent from Philadelphia by Thomas Cope, Esq.; two leaves were exhibited, one showing the upper and the other the under side, each measuring 19 feet in circumference, and a flower *fourteen inches in diameter*. This in itself was sufficient to bring together a large assemblage, but in addition, many fine plants were exhibited by Messrs. Hogg & Son, T. Dunlap, Maythorn & Knight, Thos. Richardson, Esq., J. P. Rauch, W. C. Langley, J. B. Lenoir, and others.

Mr. Dunlap exhibited a fine specimen of *Araucaria excelsa*; Messrs. Hogg & Son, *Bonapartea juncæa*, *Hydrangea japonica*, &c.; Mr. Chalmers, gardener to Thos. Richardson, twenty *Cactæ*, which carried off the prize; Mr. Menand, of Albany, sent some splendid *Ixoras* and other plants, in fine condition, which were awarded the prize; Mr. Langley sent the best *pelargoniums*; and J. W. Wood sent the best *verbenas*, but no names are given. The premium for hothouse plants was taken by Messrs. Hogg & Son.

Owing to the length of our Horticultural Reports, we are compelled to omit the awards of the committee.

The Fall exhibition of the society will be held at Metropolitan Hall, on the 21st, 22d, and 23d of September next. A list of the premiums offered has been published, which may be had on application to P. B. Mead, Esq., the chairman of the committee of arrangements.

The following are some of the larger prizes:—

FRUITS.

<i>Apples.</i> —For the best display of named varieties, not less than six kinds, nor less than three of each, silver cup, or	\$8 00
For the second best, silver medal, or	5 00

<i>Pears.</i> —For the best display of named varieties, not less than six kinds, nor less than three of each, silver cup, or	\$8 00
For the second best, silver medal, or	5 00
<i>Peaches.</i> —For the best display of named varieties, not less than six kinds, nor less than three of each, silver cup, or	8 00
For the second best, silver medal, or	5 00
<i>Nectarines.</i> —For the best twelve nectarines, bronze medal, or	8 00
For the second best,	2 00
<i>Plums.</i> —For the best display of named varieties, not less than six kinds, nor less than three of each, silver medal, or	5 00
For the second best, bronze medal, or	3 00
<i>Grapes.</i> —For the best eight named varieties of foreign grapes, silver cup, or	8 00
For the second best, silver medal, or	5 00
<i>General Display.</i> —For the best general display of fruit, silver cup, or	8 00
For the second best, silver medal, or	5 00

FLOWERS.

<i>Roses.</i> —For the best general display of roses, silver cup, or	8 00
For the second best, silver medal, or	5 00
<i>Dahlias.</i> —For the best general display of dahlias, silver cup, or	8 00
For the second best, silver medal, or	5 00
<i>Verbenas.</i> —For the best general display of verbenas, bronze medal, or	3 00
For the second best,	2 00
<i>Bouquets, Baskets, etc.</i> —For the best pair of hand bouquets, composed of flowers promiscuously arranged, bronze medal, or	3 00
For the second best,	3 00

Also, numerous prizes for bouquets, plants, &c., &c., and a liberal amount in premiums for vegetables.

We are glad to see our New York friends so wide awake, and trust that *this time* they will make it go, and “no mistake.” We hope Mr. Mead, or the secretary, will send us full reports of the exhibitions.

ALBANY AND RENSSELAER HORTICULTURAL SOCIETY.—The first and second exhibitions of this society were held June 22d and July 6th, and from the reports which have come to hand they were exceedingly interesting in both departments of fruits and flowers. But as the June report did not reach us in season for the July No., and as both together are quite too long for our space, we are compelled to omit the greater part of them.

June 22d.—The first exhibition for 1852, took place at the N. Y. State Agricultural Society Rooms, on Tuesday; the floral display, both in beauty and variety, eclipsed that of any former exhibition; and taking into consideration the unusual drouth, the display of fruits and vegetables exceeded all anticipations.

The Society met at 12 M., Dr. H. Wendell, its President, in the chair, when the following gentlemen were chosen delegates to the American Pomological Congress in Philadelphia, on the 13th of September next, viz.:—

V. P. Douw, H. Wendell, M. D., James Wilson, B. B. Kirtland, D. T. Vail, B. P. Johnson, L. Tucker, and E. Dorr.

The following gentlemen to represent it at the Autumnal Exhibition of the Mass. Hort. Soc., viz.:—J. Rathbone, S. E. Warren, C. P. Williams, Jefferson Mayell, Wm. Newcomb, W. A. Wharton, and Amos Briggs.

And the following to represent it at the Autumnal Exhibition of the Penn. Hort. Soc., viz.:—E. P. Prentice, E. Corning, Jr., Wm. James, J. S. Gould, L. Menand, Dr. John Wilson, and W. A. McCulloch.

The exhibition of fruits was mostly confined to strawberries, of which the specimens were fine. Mr. C. P. Williams, in order to show the character of Hovey's Seedling, exhibited a number of single stems, and several whole plants, laden with the ripe and unripe fruit, proving, to the satisfaction of all, it to be, when well cultivated, an enormous bearer, as well as the most beautiful berry on exhibition. The committee wish to thank Mr. Williams for this display, and beg leave to suggest to members that a like exhibition of all varieties grown by them be made next year, in order that fair comparison may be made between the different varieties in all their qualities.

PREMIUMS AWARDED FOR FRUITS.

For the best and most extensive collection, to John S. Goold, (for 17 varieties,) \$3.

For 2d best and 2d most extensive collection, to B. B. Kirtland, (for 10 varieties,) \$2.

For best and finest flavored variety, to Joel Rathbone, for Burr's new Pine, beautiful specimens, \$2.

For 2d best and 2d finest flavored variety, to C. P. Williams, for Hovey's Seedling, very large and beautiful specimens, \$1.

The committee in awarding this premium, wish to remark, that notwithstanding they think the flavor of Burr's new Pine more delicate and delicious than that of any other variety exhibited, still it is not by them considered as beautiful, as hardy, or as prolific as the Hovey's Seedling, and consequently not so desirable a variety for cultivation on a large scale.

PREMIUMS FOR PLANTS IN POTS.

For best six plants in pots, to E. Corning, Jr., (Morris Walsh, gardener,) for *Euphorbia splendens*, *gloxinias candida*, *maxima* and *speciosa*, *Adamsia versicolor*, and *Clerodendron Fallax*, \$3.

To Col. Rathbone, Wm. C. Gardner, L. Menand, and Wm. James, a discretionary premium of \$1 each for their splendid display of greenhouse plants and flowers.

Pelargoniums.—For the best plants in pots, the premium is awarded to Col. Rathbone, for *Anna's*, *Hebe's Lip*, *Bridesmaid*, *Clouded Perfection*, *Washington*, and *Queen of Siam*, \$2.

For the three best plants in pots, the premium is awarded to L. Menand, for *Anna's*, *Elegans*, and *Siddonia*, \$1.

To V. P. Douw, for his splendid display of *pelargoniums*, a discretionary premium is awarded of \$1.

The show of bouquets and miscellaneous flowers was large and fine, but we have not room for particulars.

July 6th.—The Second Exhibition for 1852, took place at the Hall of the Agricultural Society, on Tuesday, the 6th. The display of fruit was unexpectedly large and varied, as was also the show of plants and flowers, as well as vegetables. The society met at 12, Dr. H. Wendell, its President, in the chair. A communication was read from the N. York Hort. Society, inviting co-operation with them in promoting horticultural progress, which was ordered on file, and the following gentlemen chosen delegates to represent the Albany and Rensselaer Hort. Society at the annual exhibition of said society, which is to take place in September next, viz.:—J. Rathbone, V. P. Douw, H. Wendell, T. T. Vail, E. P. Prentice, B. B. Kirtland, S. E. Warren, B. P. Johnson, L. Tucker, J. Wilson, E. Corning, Jr., J. Mayell, L. Menand, E. Dorr, and C. P. Williams.

Mr. Kirtland had the best and most extensive collection of cherries; Col. Rathbone, the best show of gooseberries, and D. Wilson, the best show of currants.

The flowers and plants were fine, and the following premiums were awarded:—

PREMIUMS ON GREENHOUSE PLANTS AND FLOWERS.

For the best six plants in pots, to E. Corning, Jr., (Mr. Walsh, gardener,) for *Euphorbia splendens*, *Opuntia Brasiliensis*, *Clerodendron Fallax*, *Gloxinia maxima*, *Ruellia Juncea*, and *Tabernaemontana coronaria*, \$3.

For the best six *Fuchsias*, to V. P. Douw, (Mr. Byrnes, gardener,) for *Napoleon*, *Delicata*, *Hero*, *Globosa*, *Beauty Supreme*, and *Corrallina*—these plants were beautifully grown—\$2.

For the best three varieties of *Fuchsias*, to L. Menand, for *Voltigeur*, *Corrallina*, and *Delicata*, \$1.

To Col. Rathbone, (W. Gray, gardener,) and to James Wilson, each a discretionary premium of \$1, for their splendid display of well grown plants.

PREMIUMS ON BOUQUETS, FLOWERS, &c.

For best exhibition of dahlias, to Col. Rathbone, \$3.

For best six varieties of picotees, to Wm. Newcomb, \$2.

For best three varieties of picotees, to Col. Rathbone, \$1.

For best display of annual and perennial flowers, to Wm. Newcomb, \$2.

For best large round bouquet for centre table vase, to Mrs. Van Namee, of Pittstown, \$2.

For best large flat bouquet for mantel vase, to Mrs. W. Newcomb, of Pittstown, \$2.

For best basket bouquet, with handle, to Mrs. W. Newcomb, of Pittstown, \$1.

For best hand bouquet, flat, to Mrs. Newcomb, of Pittstown, \$1.

GENESEE VALLEY HORTICULTURAL SOCIETY.—The weekly displays of this society have been exceedingly interesting, and many fine flowers and fruits have been exhibited. At the show on the 29th of May among many

rare flowers, none were more admired than the calceolarias and "Hovey's America" verbenas, shown by Mr. Webster.

At the show on the 25th of June, the strawberries were numerous and in great variety. The premium for the best and largest collection was awarded to Mr. Pardee, who exhibited about forty kinds.

BUFFALO HORTICULTURAL SOCIETY.—*June 15th.* The President in the chair.

Exhibited.—By Mason & Lovering, 3 bouquets of roses, geraniums, salvias, verbenas, pansies, columbines, &c. D. S. Manley & Brother, peonies 4 var., Fleur de Lis, double scarlet hawthorn, snowball, Dictamnus rubra, Weigela rosea, Lilac toirea. Mrs. Lewis Eaton, peonies 3 var. A. Bryant & Son, peonies 6 var., Dictamnus rubra, Awsonia willow. Benj. Hodge, Roxbury Russet and Poughkeepsie Russet apples.

The prize for the best 3 var. peonies was awarded to A. Bryant & Son.

After testing the fruit exhibited, the society adjourned.

June 29th and 30th.—Semiannual exhibition. In consequence of the unusual lateness of the season, the display at this exhibition was scarcely so fine as that of last year, many varieties of roses not being yet in bloom, and cherries, with the exception of the earlier sorts, not yet ripe. The Hall, however, presented a beautiful appearance, decorated as it was with wreaths of evergreens interspersed with flowers, and having in the centre an elegant Floral Temple. Many new and rare varieties of both fruits and flowers were for the first time exhibited on the society's tables, and notwithstanding the many unfavorable circumstances which the society were obliged to contend against, the exhibition gave general satisfaction.

The committee on flowers offer the following report. The contributors were forty-two in number, and although the season, from its backwardness and drouth, has materially affected our floral display, yet, notwithstanding, it is conceded by all our numerous visitors that the blooms in general were very fine, although much less in quantity as compared with our former June shows.

Much credit is due the Executive, Mr. Bryant, for his indefatigable labors, as also the committee of ladies and aids, for their tasteful decorations. Besides the bouquets, floral ornaments and single flowers to which premiums were awarded, were very many beautiful and nearly equal in growth and make, which rendered it difficult in many cases to award satisfactorily the prizes.

The bouquet of Mrs. R. Hollister had some fine roses and phlox. Mrs. O. G. Steele, superb Moss roses. Mrs. J. T. Lacy, an excellent collection of roses, phlox, &c. Mrs. Mulligan, 10 var. of roses, among them very fine Hundred-leaved. Miss E. Provost, a very tasteful collection, artistically put up, chaste and pretty. Miss Vandeventer had a large variety of excellent growth. Among the bouquets, was a capital one, having ranunculus and many varieties of greenhouse flowers from Miss Susan Thomas. The committee would have awarded it a premium, had they not learned that it was a *purchased* bouquet, the rules of the society requiring plants and flowers to be the growth of the competitors.

There were also a very fine, indeed the richest collection of verbenas ever presented at our show, from Messrs. Mason & Lovering, together with a beautiful collection of pot plants, &c. Among the designs, Mrs. A. A. Howard, Mrs. F. A. Lord, Mrs. L. Eaton, and those from the President, were conspicuous for their chaste and elaborate workmanship. Mrs. Dr. Winne exhibited two pots of carnations, which were finely grown and beautifully colored.

PREMIUMS AWARDED.

For the best 20 miscellaneous roses, to D. S. Manley & Brother, for Lady Fordwich, Giant des Batailles, Dr. Marx, Cersitie, Standard of Marengo, Imperial Superb, Alpine, Thornless, Russelliana, Madame Hardy, Baronne Prevost, English White, Modern China, George 4th, Mireba, La Touterelle, Hybrid Blanche, Caroline Mignonne, Madame Laffay, Charles Fouquier, Madame Dammeine. Diploma.

For the best 12 garden roses, to Mrs. Lewis Eaton, for Aureti, Venus, Hundred Leaf, Pink Ayreshire, Yellow Harrison, French Blush, Provence, Black Tuscany, Internal, Madame Hardy, Russelliana, Carmine, \$3.

For the best display of Moss roses, to D. S. Manley & Brother, for Luxembourg, Princess Adelaide, Precoce, Crimson, Prolific, Common Red, Single Crimson, \$2.

For the best Floral Design, to F. A. Lord, diploma and \$2.

For the second best, to A. H. Bryant, \$2.

For the best large bouquet, to Mrs. Lewis Eaton, \$2.

For the second best, to Mason & Lovering, \$1.

For the best small bouquet, to Miss Lonisa A. Pratt, \$2.

For the second best, to Mrs. O. G. Steele, \$1.

For a floral ornament, (discretionary,) to Mrs. A. A. Howard, \$1.

For a floral ornament, (discretionary,) to D. S. Manley & Brother, \$1.

The committee on Fruits, report:—That the display of strawberries was large, and in the opinion of the committee excelled in point of quality and variety that of any former show. Owing to the backward season the display of other fruits was very limited.

Your committee award the prize for the best display of fruit, to Mr. Chas. Taintor, diploma.

Exhibited.—By W. R. Coppock, strawberries—Hovey's Seedling, Boston Pine, Burr's Seedling, Burr's New Pine, Rival Hudson, Methven Scarlet, Black Prince, Necked Pine, Prolific Hautbois, Crimson Cone, Large Early Scarlet, Aberdeen Beehive; cherries—Bigarreau de Lyon. By Charles Taintor, strawberries—Hovey's Seedling, Boston Pine, Large Early Scarlet, Prolific Hautbois, Burr's New Pine, Crimson Cone, Black Prince, Willey, Hudson, Cincinnati Hudson, Rival Hudson, Profuse Scarlet, Necked Pine, Burr's Seedling; gooseberries.

By Mrs. S. B. Vandeventer, apples—Northern Spy. By H. G. Stambach, strawberries—Hovey's Seedling, Crimson Cone. By G. Zimmerman, strawberries—Hovey's Seedling, Prolific Hautbois; cherries—Early Purple Guigne; currants. By J. C. Warriner, strawberries—Hovey's Seedling. By C. D. Cowles, strawberries—Hovey's Seedling. By Mrs. John T. Lacy,

gooseberries. By D. S. Manley & Brother, strawberries—Hovey's Seedling, Boston Pine, Burr's New Pine, Iowa, Rival Hudson, Swainstone's Seedling, Large Early Scarlet, Crimson Cone, Schneike's Seedling.

By Lewis Eaton, strawberries—Hovey's Seedling, Boston Pine, Burr's New Pine, Rival Hudson, Large Early Scarlet, Crimson Cone, Richardson's Late, White Wood; apples, Rhode Island Greening; cherries, White Bigarreau. By Warren Granger, apples, Northern Spy. By Mason & Lovering, strawberries—Taylor's Seedling, Scioto, Dundee, Gen. Jacquemont, Jenney's Seedling, Iowa. By A. Bryant & Son, cherries—White Bigarreau, Holman's Duke. By Myron Stillwell—cherries—Flesh colored Bigarreau.

The committee on Vegetables report:—That the display was not so extensive as might have been expected had not the season been unusually cool; yet, notwithstanding, the peas, onions, cauliflowers, cucumbers, etc. were remarkably fine and well grown.

July 6th.—Vice President Granger in the chair. The show of fruit and vegetables was not as large as might have been expected, but the specimens were of fine growth.

The prize for the best half peck peas, (Prince Albert,) was awarded to W. R. Coppock. For the best half peck potatoes, to the same. Adjourned. Jno. B. Eaton, *Recording Secretary*.

ART. IV. *Massachusetts Horticultural Society.*

Saturday, June 26th.—*Exhibited.* FLOWERS: From J. A. Kenrick, a fine flower of *Magnolia macrophylla*. Cut flowers of fifty-one varieties and two bouquets from E. M. Richards. Cut flowers and bouquets from S. Walker, W. E. Carter, J. Hovey, J. A. Kenrick, Miss Mary M. Kenrick, J. Nugent, Col. B. Loring, Winship & Co., P. Barnes, and others.

GRATUITIES AWARDED.

To W. E. Carter, E. M. Richards, J. A. Kenrick, Miss Mary M. Kenrick, Miss Russell, S. Walker, J. Nugent, Winship & Co., and P. Barnes, \$1 each for cut flowers, &c.

July 3d.—An adjourned meeting of the Society was held to-day,—the President in the chair. The President read a letter from Mr. Sleeper, resigning his office as a member of the Committee of Arrangements, and W. C. Strong was chosen to fill the vacancy.

The Publication Committee reported that the third number of the *Transactions* of the Society was ready for distribution. It was voted that, in consequence of its size, it be furnished to the members at double the usual price, or \$1 50, and to the public for \$2 00 each.

The chairman of the Publishing Committee, M. P. Wilder and Jos. Breck, were chosen a committee to consider the propriety of issuing any further numbers. Adjourned four weeks, to July 31.

Exhibited.—FLOWERS: From W. Schimmin, gardener to J. P. Cushing, fine plants of *Clerodendron squamatum* and *pedunculatum*, *Justicia carnea* major, *Allamanda grandiflora*, and *fuchsias*; also, cut flowers of Van Houtte's *Alstromerias*, grown in frames in the open ground, and fine 10 week stocks.

From Hovey & Co., 12 varieties of Prairie roses, viz., Mrs. Hovey, Baltimore Belle, Queen, Eva Corinne, Anne Marie, Triumphant, Superba, Miss Gunnell, Jane, Pallida, perpetual pink, and Caradora Allen; also, phloxes and picotees. Cut flowers and bouquets from J. Hovey, D. T. Curtis, J. A. Kenrick, Mary M. Kenrick, Miss Russell, and others.

PREMIUMS AND GRATUITIES AWARDED.

PRAIRIE ROSES.—For the best display of not less than six varieties, to Hovey & Co., \$5.

For the second best, to Winship & Co., \$4.

GRATUITIES.—To H. Schimmin, for plants, \$5.

To H. Schimmin, for *Allamanda grandiflora*, \$3.

To H. Schimmin, for *Alstromerias* and stocks, \$3.

To P. Barnes, for cut flowers, \$2.

To Col. Loring, E. M. Richards, Miss Russell, Jas. Nugent, and W. E. Carter, \$1 each for cut flowers, &c.

FRUIT: From M. P. Wilder, 12 varieties cherries,—the Belle Audigeoise, probably the same as the flesh-colored Bigarreau. From B. Merriam, a box of cherries, presented as a seedling, very fine indeed, strongly resembling the Downton. From M. H. Stimpson, a handsome basket of B. Tartarians, very large and glossy. From C. E. Grant, White Bigarreau. From John Ruggles, handsome B. Tartarians. From O. Johnson, B. Tartarians and Bigarreaus, not quite ripe; also, Hovey's Seedling strawberries. From H. Vandine, B. Tartarians, large. From John Greenleaf, B. Tartarians, very large and handsome, not fully ripe. From J. Walsh, seedling cherries. From A. D. Williams, cherries. From C. G. Loring, 8 fine dishes grapes, mostly B. Hamburgs, not fully ripe. From W. C. Strong, Muscat of Alexandria grapes. From J. P. Cushing, 4 varieties grapes, the Syrian large and handsome. From J. F. Allen, 13 varieties grapes, and a handsome dish of peaches, nectarines and figs. From Mrs. F. B. Durfee, B. Hamburg and St. Peters grapes, fine—one bunch of the Hamburgs very large. From H. Bradlee, White Alpine strawberry.

FRUITS TESTED.—From J. F. Allen, No. 1 seedling B. Hamburg, well spoken of in committee, but the berries not so fully ripe as desirable; Victoria; Old Hamburg; No. 16; Wilmot's new; Grizzly. All these grapes sustain previous reputation. From M. P. Wilder, Belle Audigeoise cherry, probably same as flesh-colored Bigarreau. From B. Merriam, cherries, presented as seedling, very fine and tender, strongly resembling the Downton.

July 10th.—Exhibited. FLOWERS: From P. Barnes, *Delphinium magnifica* (new) a pretty variety; also, seedling phloxes, delphiniums, hollyhocks, &c. From Hovey & Co., seedling carnations and picotees, fine.

From Mrs. T. H. Carey, Greville roses. Cut flowers, bouquets, &c., from Miss Russell, Mary M. Kenrick, J. A. Kenrick, Wm. Kenrick, F. L. Capen, J. Bumstead, James Nugent, J. Hovey, and others.

GRATUITIES AWARDED.

To J. Bumstead, J. Nugent, P. Barnes, Miss Russell, Mary M. Kenrick, and J. Hovey, \$1 each.

FRUIT: From O. Johnson, Napoleon Bigarreau, very fine, Black Tartarian, White Bigarreau, Black Eagle, and Mottled Bigarreau cherries, all fine. From M. H. Simpson, Black Tartarian and Black Eagle cherries, extra fine.

From Hovey & Co., splendid specimens of their new Seedling cherry, noticed by the chairman in his last annual report. From Isaac Stone, seedling cherries, from the Black Tartarian. From Geo. Walsh, cherries, Nos. 1 and 2, very fine. From G. Merriam, Downer(?) cherries. From B. David, Bigarreau(?) cherries. From J. F. Allen, peaches, good. From K. Bailey, Franconia raspberries. From A. Bowditch, Knevet's Giant raspberry.

FRUITS TESTED.—From Isaac Stone, seedling cherry, of medium size, black, sweet, and good.

July 17th.—Exhibited. FLOWERS: From H. Schimmin, gardener to J. P. Cushing, eleven plants in pots, among which were fine calceolarias, Japan lilies (dark varieties), Clerodendron fallax, Lyne's Seedling Gloxinia, and the lovely Dipladenia splendens, which we have noticed in another page; also, hollyhocks, bouquets, &c.

From Hovey & Co., splendid collections of carnations and picotees, among them some fine seedlings. The prize stand contained the following sorts: Beauty of Middlesex (Hovey's), King Alfred, Duke of Newcastle, picotee, Jenny Lind (Hovey's), picotee, Beauty of Cambridge, yellow picotee, Belle Americaine (Hovey's), Mrs. Hovey, white picotee, Defiance, (Hovey's), and two unnamed. Also, 12 varieties of phlox, a large collection of hollyhocks, and fine specimens of *Lilium japonicum* and *canadensis*, the latter showing *thirty five* flowers and buds.

From Dr. C. F. Chaplin, a great display of picotees and pinks, mostly seedlings, and some of them very fine. From P. Barnes, a fine display of hollyhocks and other flowers. Cut flowers, &c., from J. L. Boyden, Mary M. Kenrick, Miss Russell, J. Nugent, T. Page, J. Hovey, Mrs. L. Capen, and Winship & Co.

PREMIUMS AND GRATUITIES AWARDED.

CARNATIONS AND PICOTEES.—For the best ten varieties, to Hovey & Co., \$5.

For the second best, to Dr. C. F. Chaplin, \$4.

For the best display, to Dr. C. F. Chaplin, \$3.

HOLLYHOCKS.—For the best display, to P. Barnes, \$5.

For the second best, to Hovey & Co., \$4.

For the third best, to H. Schimmin, \$3.

SUMMER PHLOXES.—For the best ten varieties, to Hovey & Co., \$6.

GRATUITIES.—To H. Schimmin, for *Dipladenia*, \$3, and pot plants, \$2.

To H. Schimmin, J. L. Boyden, Miss Russell, Mary M. Kenrick, Thos. Page, John Hovey, Winship & Co., and P. Barnes, \$1 each.

FRUITS: From Jonathan French, Beechwood and Persian melons. From J. S. Amory, several varieties of gooseberries and all *extra fine*. From O. Johnson, seedling cherries. From K. Bailey, four boxes raspberries. From Hovey & Co., Petit Muscat pears; Early York peaches, finely colored; a seedling cherry of a large and fine quality. From J. P. Cushing, by John McLennan, Persian green and flesh colored melons; White and Red Dutch currants. From A. D. Williams, three varieties of cherries; White and Red Dutch currants. From J. Lovett, Fastolf and Knevet's Giant raspberries, *extra fine*. From J. Hovey, two boxes gooseberries. From Mrs. Durfee, Victoria grapes, one bunch weighing 2 lbs. 3 oz.; also Black Ham-burgh grapes, one bunch weighing 2 lbs. 6 oz. From J. F. Allen, Flame colored Tokay grapes; Violet Hative, Newington, and Lewis nectarines; figs and peaches.

FRUITS TESTED: From O. Johnson, his seedling cherry, which fully sustains his former reputation. From J. F. Allen, Grosse Mignonne peaches, Lewis and Newington nectarines—the latter nectarine proved decidedly superior in flavor to the Lewis. From J. P. Cushing, melons which were well ripened, of delicious flavor.

HORTICULTURAL OPERATIONS

FOR AUGUST.

FRUIT DEPARTMENT.

JUST now, in the neighborhood of Boston, and, we believe, generally throughout New England, a great drought prevails. With the exception of a fine shower the last of June, not half an inch of rain has fallen since the middle of May. In consequence of the heavy rains of April, which thoroughly saturated the ground, trees and deep-rooted plants have suffered very little; but all newly planted shrubs, plants, annuals, &c., have scarcely made any growth, and are now, in some places, nearly dried up. All the rain seems to have fallen on the other continent. In England, *seven inches* fell in June; and for the six months ending July 1, the quantity was *six inches* above the average of the last nine years. We can only hope for bountiful showers the present month.

GRAPE VINES, in the greenhouse, will now be ripening their crop. Such kinds as the Chasselas being now ready to cut: give air early and in liberal quantity; be more sparing of water, and keep a somewhat drier atmosphere than last month; keep all the laterals regularly stopped. Vines in cold houses will now begin to color; any thinning or shouldering, yet omitted, should be completed: give air liberally in good weather, and keep up a

humid atmosphere. Hardy grapes will require looking after: keep the shoots for next year tied in, and cut away all useless and small wood.

PEACHES in pots, which have had their fruit all gathered, should be moderately watered, using occasionally liquid manure or guano. Nip off the ends of over-vigorous shoots.

STRAWBERRY BEDS may be made the last of the month if the weather is not too dry. Now is the time to trench and prepare the beds, that they may be in readiness for the plants. Old beds should be kept clear of weeds.

PLUM, PEAR and CHERRY TREES should be budded this month.

QUINCE TREES might be layered this month.

SUMMER PRUNING TREES should still be continued, where fine shaped specimens are wanted. Thinning the fruit from bearing trees should also be attended to, if fine specimens are desired. Some varieties require this more than others, and if not thinned are so small as to be scarcely worth gathering.

INSECTS will yet be troublesome; the fall caterpillar is particularly injurious to apple and pear trees, and they should be destroyed as soon as they make their appearance. In a few days they overrun a whole tree.

FLOWER DEPARTMENT.

Formerly, it was the custom to clear the greenhouses of their winter occupants, and leave them vacant till autumn; but with the introduction of the achimenes, the new gloxinias, and Japan lilies, a change has taken place. These plants which like a warm humid atmosphere are just suited to the situation, and with a good assortment it may be made almost as ornamental as in winter. But some forethought and management is necessary to keep up a continued display. If in spring provision is made for a stock, the greenhouse may now be gay with Achimenes, Gloxinias, Gesneras, Fuchsias, Chinese Hibiscuses, Scarlet Pelargoniums, Japan Lilies, Stephanotus, Begonias, Lantanas, Neriums, &c.

Keep up a humid atmosphere by syringing freely *every day*, and watering the floors *morning, noon and night*. If there is any one thing in which cultivators err, it is in not giving sufficient water. In our dry and scorching climate it is absolutely necessary that water should be freely given at all times. More than half of our collections of greenhouse plants are ruined for want of water. Especially with plants in the open air is it important to water and syringe freely. If any one needs to be assured of this, let him look at a collection of plants after a succession of cloudy rainy weather; and again after three days of such weather as we have had the whole of July. If a careful observer, he will never let his plants suffer again if he cares anything about them.

PELARGONIUMS, headed down as directed last month, should be kept in a half shady place for two or three weeks, and be sparingly watered; they should then be taken out of the pots, their balls reduced, and repotted in the same or smaller sized ones, according to the state of the roots; afterwards place in a frame and keep rather close for a week or two.

CHRYSANTHEMUMS will now be growing vigorously, and may be stopped for the last time; repot if they require it. Nice small plants may now be obtained by layering of the tops of strong plants into small pots. Water freely.

CAMELLIAS may now be repotted: the whole collection should be looked to; such as do not actually require it need be only top dressed. Syringe every day, and see that the roots are well watered. Inarching and grafting may be done now.

PÆONIES may now be grafted.

ERICAS and **EPACRISES** should be stopped for the last time, unless young stock. Repot if they require it.

CYCLAMENS should be repotted the last of the month.

AMARYLLISES should be repotted this month.

JAPAN LILIES, as soon as done flowering, should be placed in a half shady situation in the open air, and sparingly watered.

CALLAS should be repotted this month.

HELIOTROPES, for winter blooming, should now be shifted into larger pots, in order to get well established before winter.

NEMOPHILA INSIGNIS and **SCHIZANTHUSES** should be sown now for winter flowering.

ROSES, of all kinds, may now be layered and budded. It is a good season to put in cuttings. Plants for early winter flowering should be pruned in the last of the month.

EUPHORBIAS should be shifted into their winter blooming pots, and be topped for the last time. Plunge in a warm place in the open ground.

CHINESE PRIMROSES may have a shift now if they need it. Young seedlings should be potted off into small pots.

GREENHOUSE PLANTS, of all kinds, for early bloom, should now have a final potting, and be plunged in an airy place in the open ground.

FLOWER GARDEN AND SHRUBBERY.

The dry weather has been unfavorable to a growth of weeds, but notwithstanding, the ground will require constant stirring to prevent injury from the drought. Keep everything neat. Mow lawns as soon as they require it. Cut away all dead flower stems, decayed leaves, &c. Hoe and rake neatly every bed and border.

CARNATIONS should be layered immediately if not already done.

DAHLIAS will need tying up, thinning the branches, mulching and watering, if fine show flowers are wanted.

PANSY SEEDS should be planted now for spring flowering. Propagate old kinds from pipings.

ROSES of the hardy kinds should be layered now.

WHITE LILIES should now be taken up, divided and reset.

PERENNIALS and **BIENNIALS**, planted last month, should now be set out in beds, or where they are to stand in the border.

ORNAMENTAL SHRUBS, of many kinds, may now be increased by layers.

THE MAGAZINE OF HORTICULTURE.

SEPTEMBER, 1852.

ORIGINAL COMMUNICATIONS.

ART. I. *The Transformation of Plants, and the importance of its results.* By the EDITOR.

EVERY few years the subject comes up in our agricultural papers of the transmutation of wheat into chess. Intelligent cultivators, and men of veracity, have affirmed that such changes have taken place, and have offered to furnish specimens of the transmutation; but the question has been considered by most agricultural writers so absurd, and indeed apparently impossible,—setting at naught, as it would appear, all our established notions of botanical distinctions,—that those who have advanced such statements have scarcely had the privilege of telling their own story.

We willingly admit that we have had no faith in any of these alleged transmutations; nevertheless, if all that is now told is true, our belief is somewhat shaken, and the transmutation a theory not by any means, as has been supposed, impossible; still we must have good evidence before we can believe it probable: such evidence, it will be seen, is now adduced by two learned French botanists.

In the *Gardeners' Chronicle* we find some remarks on the subject of the origin of wheat, which are worthy the attention of every cultivator; not particularly for the detail of the experiments by which the grain is traced from its original form to its present perfect state, but for the results which Dr.

Lindley deduces from these experiments, and which are of great importance to all amateur and practical cultivators who have any desire to improve our flowers, fruits and vegetables.

No one would recognize in the rich Baldwin apple the sour and worthless crab, or in the delicious Seckel pear the austere wilding, which grows in our hedge-rows. These changes are scarcely greater than that of the *Ægilops* transformed into wheat through twelve succeeding generations. Our vegetables have undergone nearly the same alteration; few persons would suppose the rich Champion of England pea was the offspring of the small kind known as the field pea, or sweet corn the result of cultivation upon the wild grain of South America. This we all have seen accomplished; and though the experiments of M. Fabre are not as familiar, they appear sufficiently well authenticated to be taken as facts; and such being the case, how can we longer doubt that the transmutations heretofore brought to notice are not strictly true?—

In 1844, the question of the transmutation of corn was raised in this Journal, at p. 555 of the volume for that year, and at p. 779 it was further alluded to. Thereupon ensued many communications on both sides the question, and from time to time the subject has been occasionally revived; but it must be owned that it nevertheless remains just where it was, so far as anything like proof is concerned. Belief has opposed itself to unbelief, credulity to incredulity, and assertion to counterassertion; but of evidence derived from well-conducted experiments, we have had nothing. For ourselves, without by any means encouraging the belief in the change of oats into rye, or in any similar transmutations, we have also asserted, from the first, that no naturalist, acquainted with certain facts which have become known of late years, could venture absolutely to deny the possibility of such changes. Writing in 1844, we said that “in Orchidaceous plants, forms just as different as wheat, barley, rye, and oats, have been proved by the most rigorous evidence to be accidental variations of one common form, brought about no one

knows how, but before our eyes, and rendered permanent by equally mysterious agency." "Then," says reason, "if these inconceivable changes have been proved to occur among Orchidaceous plants, why should they not also occur among corn-plants? for it is not likely that such vagaries will be confined to one little group in the vegetable kingdom; it is far more rational to believe them to be a part of the general system of the creation." (1844, p. 555.) And again, in reply to a correspondent, it was added, "as we have repeatedly stated, we think that no man should undertake to affirm *ex cathedra*, what is possible or impossible in nature. (1845, p. 401.)

Some have thought these views objectionable, believing that we already possess that amount of knowledge of natural phenomena which justifies our deciding dogmatically upon such general questions as the change of one plant into another. It has been even held that scepticism in such matters tends to unsettle men's minds, and to induce disbelief in all by which science holds fast. We do not concur in that opinion; we see no harm in reviving even Lord Monboddo's belief in human tails; the more knowledge advances, the more easily false theory and idle hypothesis are disposed of; rational discussion can do no harm among men of intelligence,—on the contrary, it is thus only that truth is to be finally elicited.

A most curious and able dissertation upon the Origin of Wheat, which we have just read, completely justifies the views we have held, for although it does not show that oats change into rye, as many believe, and offers no support to some other speculations of the same kind, nevertheless demonstrates, beyond all further question, that wheat is itself a transmutation of a kind of wild grass. Mons. Esprit Fabre, of Agde, well known to botanists as an acute observer and patient experimentalist, has made the discovery, which has been introduced to public notice by Professor Dunal, of Montpellier, in a pamphlet, from which we condense the following statement.

The ancients imagined that the native country of wheat

was the valley of Emma, in Sicily, where it is said that the fables of Ceres and Triptolemus originated. In fact there grows in Sicily, in great abundance, a wild grass, called by botanists *Ægilops ovata*, the grain of which is much like that of starved wheat, but whose floral organs are of a very different character, and whose ears naturally fall to pieces by a separation of the joints when ripe. This kind of grain is said to have borne the name of *Blé du diable*; the plant which produced it was even called by Cæsalpinus *Triticum sylvestre*. Nevertheless naturalists appear, with one accord, to have treated the notion of wheat coming from *Ægilops ovata* as an absurdity, with the exception of two French observers, whose experiments arrived at no known result.

About the year 1824, the late M. Requien, a zealous French botanist, residing at Avignon, observed in the neighborhood of that city a, to him, new kind of *Ægilops*, which he called *triticoïdes*, because of its resemblance to wheat; and Signor Bertoloni, who introduced it into his Italian Flora, states that it has also been found in Sicily, by Professors Gussone and Tenore. There is also in the South of France another *Ægilops*, called *triaristata*, supposed to be a distinct species. Thus, according to botanists, there are three different kinds of this genus in the South of Europe, and these have been each the subject of M. Esprit Fabre's experiments.

The first point established by this observer was that both *Ægilops ovata* and *triaristata* would produce what Requien called *triticoïdes*. It would therefore seem that the three supposed species were all forms of the same species. In fact, the very same ear which yields either *ovata* or *triaristata*, also yields *triticoïdes*. Nevertheless, M. Fabre calls them perfectly distinct from each other, and is of opinion that when *Æ. ovata* runs to *triticoïdes*, it gives rise to the small grained smooth wheats which the French call *Seissette* and *Touzelle*; while, on the other hand, when *Æ. triaristata* runs into *triticoïdes*, it gives birth to the coarser wheats with downy ears, known in Lower Languedoc under the name of *Fourmen* and *Pétanielle*, among which Egyptian wheat is included. Be that as it may, and M. Fabre offers the state-

ment merely as an hypothesis, it is certain that *Ægilops triticoides*, when once produced, if raised from seed year after year, goes on changing till at last it becomes mere wheat. This is clearly shown by the following concise narrative of what the French naturalist testifies to having witnessed as occurring to the *Æ. triticoides*, derived from *Æ. ovata*.

First year of cultivation; 1839. A few grains ripened here and there among the spikelets, which still preserved the brittle character of *Ægilops*. The return was about fivefold of close-packed concave corn, which was very velvety at the upper end. The beards of the glumes, which are most abundant and remarkable in *Ægilops*, had begun to alter and disappear. The plants looked exactly like Touzelle wheat.

Second year; 1840. The spikelets of this sowing had become more numerous, and each contained two grains; the ears were less brittle; the grain was less concave and velvety, and much more floury than in the previous year. The beards of the glumes were further diminished.

Third sowing; 1841. The changes already described became more evident; as many as three grains appeared in some of the spikelets; the plants became more and more like wheat.

Fourth sowing; crop of 1842. Much injured by rust; the beards had so much disappeared that the ears had quite the appearance of beardless Touzelle wheat.

Fifth sowing; 1843. The plants were now a yard high, and exactly like wheat; none of the glumes had more than one beard, with, perhaps, the rudiments of another. The spikelets contained each from two to three grains. The ears had become less brittle. The corn was so large that it protruded beyond the chaff; the crop was 180-fold in one case, and 450-fold in another.

Sixth sowing; 1844. Changes still went on, but slowly. The ears continued brittle, one of the great peculiarities of *Ægilops*.

Seventh sowing; 1845. The plants were very much like

wheat. Beards were further diminished. High spikelets contained from four to five flowers, of which three were fertile, as in good wheat. These were really wheat.

Up to this time the experiments had been conducted in a *walled enclosure*, where no other grass was permitted to grow, and far from any other grain crop. The corn was always sown in the autumn, ripening in the years above indicated. But M. Fabre now transferred his experiments to the *open field*, sowing his *Eglops* wheat broadcast. In this way he cropped a field near the road from Marcellin, completely surrounded by vines, and far from any wheat field. For four consecutive years he persevered in his trial, obtaining every year wheat like that of the neighboring farms, and sixfold or eightfold according to the season.

In 1850 the straw was stiff and full; the ears nearly smooth, and composed of from eight to twelve spikelets, each containing two or three fertile flowers, and consequently yielding from two to three grains of corn, which were very floury, and scarcely at all concave. The crop was however very short this year, owing to excessive dryness, which greatly injured all the cereal crops.

Thus "during the twelve consecutive years," remarks M. Fabre, "in which I have pursued the cultivation of *Æ. triticoides*, I have found it gradually improving, and becoming real wheat; but I have never seen an instance of its running back to the *Æ. ovata* from which it sprung."

Subsequently Dr. Lindley offered the following remarks upon M. Fabre's experiment, concluding with some valuable hints on hybridization, &c. :—

No fact in natural history more pregnant with consequences has been elicited than that transformation to which we last week drew the attention of the public. That a miserable grass, should in no more than twelve generations become such an important article of food as wheat, would have been incredible, in the absence of the direct and positive testimony that has been produced by M. Fabre. So

unlike are the alpha and omega of this experiment, that botanists, with one consent, have placed them in distinct genera, and yet the plants are shown, by the plainest evidence, not only to belong to the same genus, but even to the same species.

The value of modern genera and species in botany is woefully shaken by this revelation; faith in those lower classes of botanical distinctions, which have been said to represent permanent natural differences, is gone; and it is to be hoped that refinements in classification, as they have been absurdly called, have received their *coup de grace*. The ingenious gentlemen who have believed that 20 species of Aconite are confounded under Napellus, half-a-hundred Willows under *Salix caprea*, and as many species of Rubus under *R. corylifolius*, may burn their books, for their trifling distinctions can hardly continue to find admirers after the proof than an *Ægilops* and Wheat are the same species. For our own part, we console ourselves with the belief that botany will be thus restored to the condition of an intelligible science; and we congratulate those who, like Bentham, Hooker, and others, have for a quarter of a century carried on an unsuccessful war with hair-splitting contemporaries, upon the final triumph of their principles.

Passing by this point of view, we may also suggest that other unsuspected instances of the same kind are very likely to occur. We are ignorant of the origin of rye; but rye is less different from wheat than is *Ægilops*, and may very well be another *Ægilopian* form. So again of barley, the wild state of which is just as uncertain; we may now expect that some clever experimenter will trace it to an origin as surprising as that of wheat. But these are matters of mere scientific interest. Let us see to what practical inferences M. Fabre's discovery may lead.

This gentleman found that a kind of wild grass (*Ægilops ovata*) was subject to what gardeners call "a sport" (*Æ. triticoides*.) Of that sport he sowed the seeds, and he found that while on the one hand there was no disposition to return to its original form, there was on the other hand a decided

tendency is sport still more. Of that tendency he availed himself with admirable patience. Year by year the change went on—but slowly. Little by little one plant altered or another. The wretched hungry grain grew plumper: the *flour* *is* *increased*: its size augmented. The starved ears *soon formed other species*: the spikelets at first containing but two flowers, at last became capable of yielding four or five. The straw stiffened, the leaves widened, the ears lengthened, the corn softened and augmented, till at last wheat itself stood revealed, and of such quality that it was not excelled on the neighboring farms. All this too, be it observed, was done on a large scale; it was no obscure laboratory experiment, but the result of a farming operation, carried on in the open fields. Men must be blind indeed who cannot see to what this points. We shall leave our agricultural friends to reflect upon the prospects that are opened to them; it is for them to double the length of their ears of corn, and augment their grain—to go on, in short, in crowds, in the track that a few only of the most intelligent are following now. We must limit our horizon to the boundary of a garden.

If any men know the importance of “sports,” they are gardeners. Half the most striking of the flowers and fruit have been thus obtained. A poor ugly dwarf larkspur sports by chance to double; the seeds of the sport are saved carefully and sown; three-fourths of the seedlings are single, but a few are double; the first are thrown away, the best of the second are saved for seed, and the second crop of seedlings comes truer. So comes the race of double larkspurs. A double larkspur next sports to a stripe, that is to say, bands of red or of violet appear upon the pale ground of the petals of a few flowers; these flowers are marked, the seed is saved, and so begins the breed of what are called Uniques, at one time the pride of the flower garden, though now discarded for newer favorites. In the same way, first came camellias, chrysanthemums, and a host of others. The old purple chrysanthemum accidentally sported to buff: the buff branch was struck, proved true to its new nature, and became

the ancestor of a race of other buffs. The color of a red camellia "breaks;" red streaks appear in the flowers of a sporting branch; that branch is separated from its more tranquil mother, and clapped upon a stout stock; on goes the sportive branch, retains its tendency, produces striped flowers all the better for the new blood infused into them, and the tendency is fixed; skilful gardeners cut it limb from limb, and every mutilated morsel starts into life another variation.

It is the same with vegetables; a wild carrot accidentally found in cultivated ground, refuses to run to seed, but employs itself in building up a root stouter than any carrot had before. The watchful eyes of a gardener remark the change; the changeling, still a sport, flowers at last; its precious seeds are saved, and committed to still richer ground. Nine-tenths of the seedlings run back to the wild form—your carrot is but an intractable gentleman after all—but a very few prove obedient to the will of man, shake off their savage habits, refuse to flower till the second year, meantime spend their autumn and winter in the further enlargement of their roots, then rise up into blossom invigorated by six months' additional preparation, and yield more seeds, in which the fixity of character, or if you will the habit of domestication, is still more firmly implanted. And thus begins the race of carrots.

Nectarines, pears, peaches, plums, and other valuable fruits, must be supposed to have in numerous instances derived their origin from similar circumstances; they were far more the children of accident than design, and we see to what they have come.

Gardeners, then, should keep a watchful eye upon every tendency to sport, which they may remark among the plants entrusted to their care. The sports, however unpromising, should be made the subject of repeated experiment; year after year seeds should be saved, seed-beds "rogued," and attempts made to secure fixity of character. If they end in nothing, as they often will, such experiments have the advantage of also costing nothing; but if they lead to a good

which a permanent gain is secured. We are no longer very general in our use of these great machines. At least we know to our cost that machines are easily lost and broken. There is nothing mysterious in the Miller's Burgundy grape transformation into a sort of wild berries as big as Muscats: or in a lock growing a fruit as wild and round as a Tripoli onion: or in a raspberry bearing berries as fine as a British Queen strawberry; such changes are far more likely to happen than the transformation of *Raspberries* into *Turkey*: what they want for their accomplishment is time, patience, and an intelligent knowledge of the nature of the plants, and a fixed residence: with all which gardeners as a body are better provided than any other class of society. To them we earnestly recommend the steady pursuit of M. Pabre's experiments. If any one should succeed in the course of a dozen years in giving a raspberry the dimensions of a mammoth strawberry, he will deserve to be placed by the side of the great inventor of the Crystal Palace.

ART. II. *Notes of a Visit to Oakley Park, England; with some Remarks on Draining and the Use of Drain Tile.*
By R. S. F.

[A FRIEND and correspondent, who is now making a sojourn near London, has kindly promised us an occasional letter on arboriculture and rural subjects. Every way qualified to do justice to whatever he may undertake to comment upon, and with a real love, as well as a fine taste, for rural art, we anticipate some interesting as well as valuable information. The great agricultural meeting at Lewes, which he alludes to, was to be accompanied by a great horticultural display, affording an excellent opportunity to witness the manner in which these are got up in England, and the plants and fruits which contribute most to the interest of such displays.—ED.]

The country in England is now looking beautifully. I was over at Oakley Park a few days since, the property of the Hon. Robert Clive. Both Mr. Clive and Lady Harriet, take a great interest in trees, and they have at Oakley an American department for trees and shrubs, that would interest you extremely. Here is to be seen the finest specimen of the *Pinus Douglassii* that I have met with in England. It is about twenty-five feet high, with a spread of branches at the base greater than its height. It is not hardy so far north as Boston, but south of New York it would do well. The *Araucaria* stands this climate, and makes a peculiar and beautiful tree. At Oakley there are some very remarkable oaks, said to have existed in the time of the Druids. The largest measures about thirty-seven feet in circumference.

I notice draining going on everywhere. Tiles are now used in the form of pipes almost entirely; being very porous they let in and carry off a great deal of water. On clay soils they would do excellent service in America, though I doubt the advantage of much draining on light loams and gravelly soils. I think I have seen mischief done in such cases both by draining and subsoiling. I should like to have you here just now to see the thorn-trees in full bloom, scattered here and there in the woods and parks. The red double flowering thorn is getting to be quite common, and makes a beautiful variety, planted singly or scattered among the shrubbery.

The season is quite backward, very unusually so. Peas are only just coming in, and strawberries will not ripen for a week to come. We have the comfort, however, of knowing, when they once begin, that we shall have them in abundance for three months instead of one, as with us.

I am going to attend the great agricultural meeting at Lewes next month, and if I see anything there that I think will interest you I will communicate it.

Moor Park, June 12, 1852.

ART. III. *The effects of Light on the Germination of Seeds, &c., when passed through media of various colors.* By R. B. L.

THIS subtle agent, which exercises such a wonderful influence on animate and inanimate matter, plays a very important part in the germination of seeds, and propagation of plants; but more interesting still is this subject when the distinct effects of the separated rays are made the subject of experiment and investigation, showing how beneficial this branch of physiological science is to gardeners and horticulturists, especially those engaged in the propagation of delicate and tender plants.

It is pretty generally known by gardeners that the general conditions necessary to the germination of seeds are moisture, heat, and the presence of oxygen gas. The necessity of LIGHT has not been recognized, though every gardener knows that a certain amount of atmospheric air is requisite immediately on the germination of the seed, otherwise the embryo will become enfeebled, and very soon decay. So also at this stage of the embryotic process is a certain amount of LIGHT necessary, if the germinated seed is to be maintained in a healthy state; the vital principle at this period of its growth is acted upon by separate influences contained in the different rays which are in action upon the plant. These influences, therefore, and the effects resulting therefrom, constitute the subject of the present article.

The amount of these agents necessary for the full and free development of seeds, must be exceedingly variable in the vegetable kingdom. Some seeds germinate freely at the freezing point, (32°), in an atmosphere comparatively arid; while others, and perhaps the majority of seeds, require a high humid temperature for their perfect development; but every degree between the two extremes is requisite for the proper development of some individual species, and the requisite degree of heat and moisture thus required will always depend on the amount of carbon with which the

seed is charged. The seeds, when perfectly ripe, contain a larger amount of carbon than any other part of the plant. It is this carbon which preserves the seeds from decomposition and decay; but it also prevents them from germinating. The only means of depriving the seeds of their carbon is by supplying them with moisture. It absorbs the moisture, and converts the carbon into carbonic acid by the oxygen thus obtained.

The formation and respiration of oxygen takes place most freely in the dark, and hence darkness or shade is most favorable to germination; but no sooner is germination established, or even begun, than light becomes necessary to the farther development of the germ; but the light is influenced in a very extraordinary manner by the medium through which it passes, some being attractive in their character, others repellant; we will therefore consider the action of the different media, or in other words, the action of the different kinds of glass on plants under which they are grown. Some beautiful and interesting experiments, performed by Robert Hunt, on the effects of various colored media on vegetation, may at this stage of our progress be acceptable to your readers, and serve to elucidate the subject perhaps better than any experiments of my own.

Six boxes were so prepared that air was freely admitted to the plants within them, without permitting the passage of any light, except what passed through the colored glasses with which they were covered. These glasses permitted the permeation of light in the following order:—

1. A RUBY GLASS, (*colored with oxyde of gold.*)—This glass permits the permeation of the ordinary red, and extreme red rays only.

2. A BROWN RED GLASS.—The ordinary ray and the orange ray, produced by this medium, pass freely, above which the spectrum is sharply cut off.

3. ORANGE GLASS.—The spectrum is shortened by the cutting off of the violet indigo, and a considerable portion of the blue rays. The green ray is nearly absorbed in the yellow, which is considerably elongated. The whole of the

least refrangible portion of the spectrum permeates this glass freely.

4. **YELLOW GLASS.**—This glass shortens the spectrum by cutting off the extreme red ray, and the whole of the most refrangible rays beyond the blue ray.

5. **COBALT BLUE GLASS.**—The spectrum obtained under this glass is perfect from the extreme limits of the most refrangible rays down to the yellow, which is wanting. The green ray is diminished, forming merely a well defined line between the blue and the yellow rays. The orange and red rays are perfectly interrupted.

6. **DEEP GREEN GLASS.**—The spectrum is cut off below the orange, and above the blue rays, although the space on which the most luminous portion of the spectrum falls appears as large as when it is not subjected to the absorptive influence of the glass. There is a great deficiency of light on a close examination with a powerful lens; a dark line is seen to occupy the space usually marked by the green ray.

A case was also prepared, containing five flat vessels, filled with colored fluids of various kinds, as follow :—

A. **RED.**—*Solution of Carmine of Supersulphate of Ammonia.* This gives a spectrum nearly in all respects similar to that given by the Ruby Glass, (No. 1.) All the rays above a line drawn through the centre of the space occupied by the orange rays, are cut off.

B. **YELLOW.**—*A Saturated Solution of Bicromate of Potash.* This beautifully transparent solution admits the permeation of the red and yellow rays, which are extended over the space occupied by the orange ray in the unabsorbed spectrum. The green rays are scarcely evident.

From the absorptive powers of the sulphurets of lime and potash in solution, I was very desirous of using them, but they are found to be so liable to decomposition when exposed to the sun's rays as to be quite useless for such purposes, sulphureted hydrogen being liberated in such quantities as to burst the bottles with very great violence.

C. **GREEN.**—*Muriate of Iron and Copper.* This me-

dium is remarkably transparent. The blue, green, yellow and orange, rays freely, all the others being absorbed.

"This experiment is perfectly in accordance with the effects of green glass on plants that are grown beneath its influence, as we shall endeavor to show in a subsequent article."

D. BLUE.—*Cupro-Sulphate of Ammonia*. This fluid obliterates all the rays below the green rays, those above permeating it freely.

E. WHITE.—This is merely water rendered acid by nitric acid, for the purpose of securing its continued transparency. It should be noticed that spaces in the boxes have been left open to the full influence of the light, that a fair comparison might be made between those plants growing under ordinary circumstances, and the others under the dis severed rays.

It will be seen from the above that the following combinations of rays have been obtained to operate with :—

A.—1. The calorific rays well insulated. 2. A smaller portion of these rays, mixed with a small amount of those having power of illumination. 3. The luminous and calorific rays combined. 4. The calorific rays and the chemical ones blended together.

B.—The luminous rays, in a tolerably unmixed state.

C.—The luminous rays, combined with the least actively chemical ones. But in this case the luminous rays exert their whole influence.

D.—The most refrangible rays well insulated.

E.—White light.

From these arrangements it will be evident that, although we do not secure the complete isolation of the rays, as we should do with a prism, we procure light, in which the great preponderance of one influence over another suffices to ensure to a certain extent, the divided action of that one. We are well aware that we only arrive at approximations to the truth by this system. But they are sufficiently accurate to show practically the action of light, when permeating the different colored media, on vegetation subjected to its influence.

The relative temperatures indicated by good thermometers, placed behind the glasses and fluid cells, will show these effects in a clearer light. The foregoing results present a fair average series, and distinctly mark the relative degrees in which the media are permeable by the heating rays.

No investigations or experiments on glass have come under our observation so reliable, and so valuable in practical horticulture, as those we have given in the foregoing pages, and which will be more practically shown in subsequent papers. What the gardener wants is not mere speculations upon the possible influence of this or that kind of glass, or other media to which his plants are subjected. He wants a plain and intelligible explanation of those influences which he sees daily in operation during occupation. He wishes to know what are the causes of the burning of his vine leaves, under some kinds and colors of glass, and not under others, and why the sun's rays have so much more influence on plants when permeating atmospheres of various density or humidity. This we will endeavor to elucidate in our subsequent remarks, and in a manner as clear as can be evolved from ascertained facts, that the most unscientific may clearly comprehend them.

Roxbury, August 17, 1852.

(To be continued.)

ART. IV. *Descriptions and Engravings of Three New Pears.* By BAPTISTE DESPORTES, Angers, France.

[In our present volume we have already given the descriptions and engravings of three new pears, by our correspondent M. Desportes, of Angers, France. We now have the pleasure of presenting the descriptions of three more varieties, two of which are quite new, and one of them of remarkable size and superior quality. We are highly gratified in being able, through the kindness of M. Desportes, to bring these many

new pears, which are yearly being added to the varieties already in cultivation by the French and Belgian amateurs, before our pomological readers, as they will thus immediately become known and speedily introduced into our collections.—Ed.]

Knowing that your fine country is essentially horticultural, and to what a high degree of perfection the culture of fruit trees is carried, I have the great pleasure of sending you, for publication in your excellent journal, the descriptions of three new pears; two of which, the *SORLUS* and *DOYEN DILLEN*, fruited for the first time, last year, in the fruiteries and nurseries of M. André Leroy, of Angers. The third has been propagated in large quantities, but has not yet fruited in his collection; and the description and drawing which I now send, are those of the Horticultural Society of Bourbourg:—

1. *DE SORLUS*.

This variety (*fig. 27*) was raised by Van Mons, and fruited for the first time in 1843, according to M. Bivort, who has given a figure and good description; yet I cannot agree with him when he says it is sometimes only second quality, and I am the more surprised, as this learned pomologist is inclined to notice favorably all the fruits which he describes. The figure which he has given is nevertheless more beautiful than that which I annex.

The *De Sorlus* pear has been planted in the school of fruits of M. Leroy for three years, and bore last autumn for the first time.

The fruit measures eight and a half centimetres in height, and seven in diameter; it is of a turbinate form, very regular, but irregularly divided at the stem, (peduncle,) which is sideways, and obliquely inserted; it is short, not being more than a centimetre and a quarter in length, and little curved: the eye is small, closed, and placed in a shallow and very broad basin: the skin is thick, yellowish-green, gray around the stem, and marbled with the same color all over the surface: flesh, white, fine and melting: juice, abundant.

sweet, and slightly perfumed. Ripens from October to December, and proves of the first quality at Angers.

The tree is very vigorous, and forms a superb pyramid, perfectly well proportioned: the branches are straight, erect, compact, shorter than the stem: the joints are very long: the buds are small, diverging, and somewhat scaly: the wood is yellow-

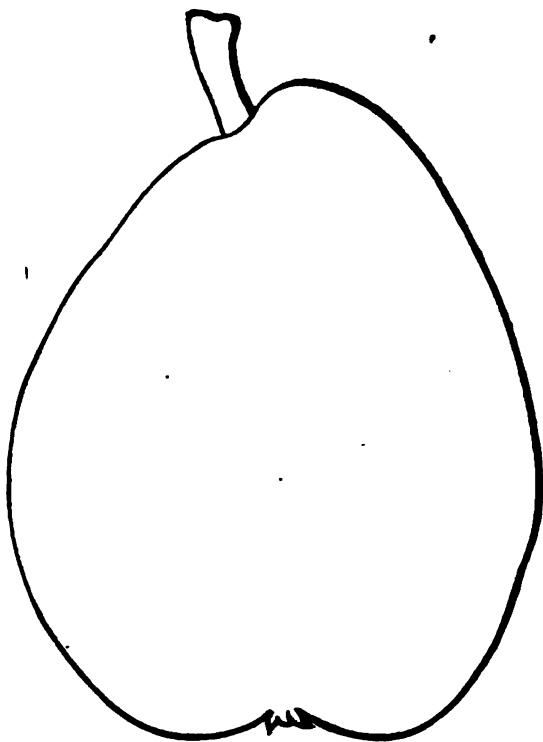


Fig. 27. De Sorbus Pear.

ish, and dotted with small grayish-white points: the leaves are large and downy; they are long and somewhat dentated: petioles, long and slender. The tree is an abundant bearer.

2. DOTEN DILLEN.

This pear (*fig. 28*) was obtained by Van Mons, and is described by M. Bivort; but the figure which he has given is much larger than ours. It fruited last year, for the first time, in the nurseries of M. Leroy.

The fruit is large, being eight and a half centimetres in height, and seven and a quarter in diameter: it is obovately formed, swelled out at the crown, diminishing much to the stem, regular, with an even surface: stem, very short, being only half a centimetre in length, slightly oblique and curved: the eye is small, closed, and inserted in a very large and moderately deep basin: skin, thick, greenish-yellow, gray around the stem, marbled and pointed with the same color all over

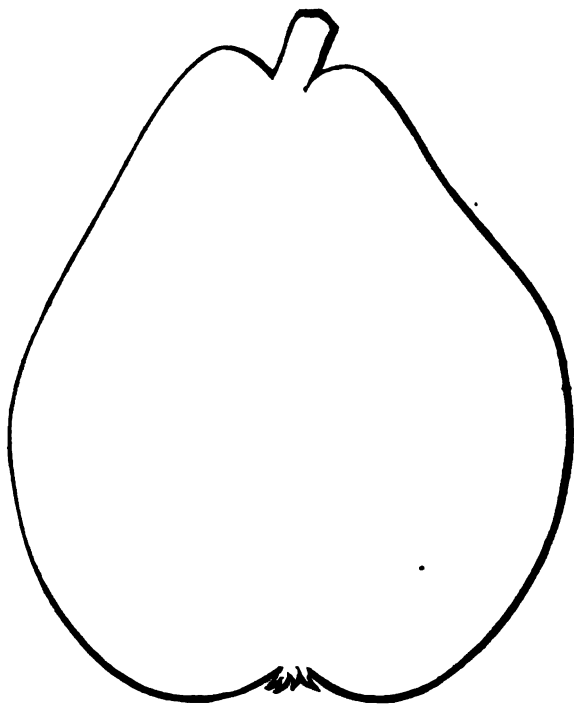


Fig. 23. *Doyen Dillen Pear.*

the surface: flesh, fine, melting and tender: juice, very abundant, sugary, vinous, and agreeably perfumed. Ripens in October and November. It is a fine pear, of first quality.

The tree is of a rather feeble habit, moderately vigorous upon the quince: the branches are few in number, those at the base diverging, and those at the top erect, and often take the direction of the stem: the wood is gray, covered with

gray points, and forming a roughness upon the bark: the buds are pointed and scaly. Though rather feeble it is a very fertile variety.

[In Lindley's *Guide to the Orchard*, a variety is described under the name of DILLEN, which was received from Van Mons by the London Horticultural Society in 1817; but in the society's catalogue for 1842, it is made a synonyme of the Beurre Diel; undoubtedly this is a distinct fruit.—Ed.]

3. BEURRE' BACHELIER.

I am indebted to M. Bachelier, cultivator at Cappellebrouck, near Bourbourg, department du Nord, (France,) for the description and engraving, made by the committee of horticulture of the Horticultural and Agricultural Society of Bourbourg, of this magnificent and excellent fruit.

Here are the words of the members charged with that labor:—

"The pear, raised from seeds, in the establishment of M. Bachelier, is a magnificent fruit, which justifies all the interest attached to it by the society. Wishing the appreciation of the committee of horticulture, they now can state its weight and the various dimensions, and note its principal characteristics.

The fruit weighs from *six hundred and thirty to six hundred and fifty* grammes, (twenty ounces,) and measures in height twelve centimetres, and in its greatest diameter, eleven centimetres: in form it somewhat resembles the Duchess of Angouleme, or Bon Chrétien: the stem is stout, short, and planted in a deep cavity: the skin is smooth, of a clear green, becoming yellow towards the middle of December, which is the indication of maturity: at that period the flesh is firm, succulent and buttery: the juice is sugary, not gritty, without any disagreeable after-taste. It is necessary, however, in eating, to take off a good thickness of the skin.

This magnificent fruit is grown 'on an espalier, facing the west, and grafted upon the Beurré Austrasie or Jaminette. It has borne in two years nine fruits, similar in form and weight, except one, which was pyriform and heavier. Be-

yond all these excellent qualities, this variety has the merit of bearing early, and of keeping until the end of December, a period when good fruit is scarce. From all the preceding considerations, it remains for the members of the committee

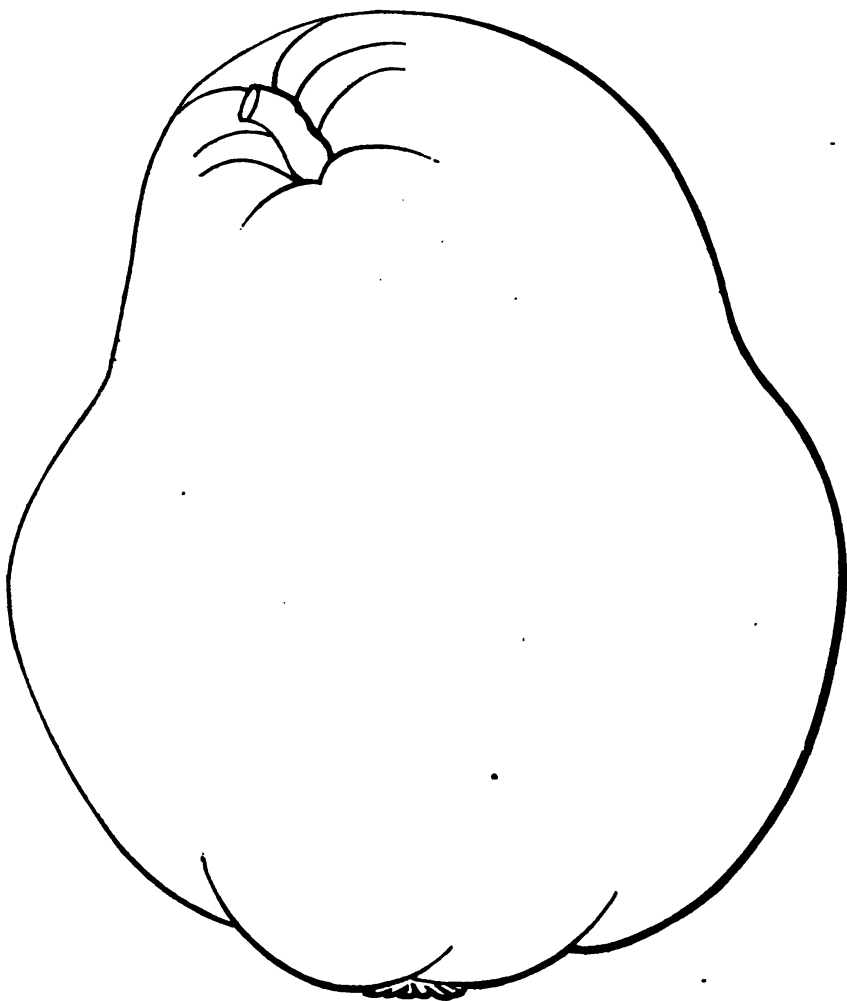


Fig. 29. Beurré Bachelier.

of horticulture to say that the pear, presented by M. Bachelier to the society, constitutes a superb production, a truly horticultural conquest. This magnificent fruit is particularly

adapted to ornament the dessert during the early part of winter, and merits, in all respects, a place in the collection of every amateur.

The committee propose to designate it with the denomination of *Beurré Bachéliér*, the name of the horticulturist who raised it, and it is thought that the thanks and congratulations should be addressed to M. Bachelier, as a homage due to his perseverance and his great efforts in the progress of horticultural industry."

Bourbourg, 13th December, 1851.

The copy is signed by M. M. Dupape Benard, Vecouffre, Eug. de Carpentry, Delecourt, and H. De Demanquet, President of the Society of Horticulture and Agriculture.

I need not add anything to a description so explicit as the preceding; unless that M. Leroy, nurseryman, of Angers, who uses all his efforts to further the progress of horticulture, is eager to propagate in his extensive nurseries a good stock of this pear, to place at the disposal of all amateurs of good fruits.

ART. V. *Pomological Gossip.*

NEW SEEDLING STRAWBERRIES.—The production of seedling varieties continues unabated. In the Reports of the various Horticultural Societies which will be found in our pages, the names of some of them are enumerated, and their qualities noticed. Western New York and Ohio have recently been the most prolific in new kinds; but now Pennsylvania and Maryland are in the field disputing the palm with the north and east. Even the extreme south, Louisiana, is claiming a share of the merit in the growth of fine seedlings.

It is gratifying to see so much attention bestowed upon this fine fruit by our amateurs and professional cultivators; and if followed up must be attended with good results. Eighteen years ago we set the ball in motion, and during the period which has elapsed, an immense number of kinds

has been raised, only a few of which, however, as yet, appear to possess superior qualities. This only shows, that though easy to raise a good strawberry, it is not so simple a task to produce one which shall possess a combination of qualities superior to any of the present varieties. The following are some of the new kinds :—

HARLEM ORANGE.—Raised by Dr. Edmonson, of Baltimore; a fruit possessing desirable qualities; it is of medium size, conical shape, and a constant and abundant bearer; pronounced by competent judges to be of superior flavor.

MARYLANDICA is another seedling raised by Dr. Edmonson, and a fruit of merit.

MOYAMENSING PINE.—Raised by G. Schmitz, of Philadelphia, a variety remarkable for its robust and vigorous growth; perfectly hardy, enduring the extremes of heat and cold; is very productive, and nearly equal in the size of the berries to Hovey's Seedling. Its great merit is its rich aroma and high flavor, in which it is said to excel all others; it is also well adapted for market.

PENNSYLVANIA.—Another of Mr. Schmitz's, of more recent production, which was exhibited before the Pennsylvania Horticultural Society, the present year, and reported as "a seedling of great merit, fine in flavor, large in size, and rich in depth of color."

CRESCENT SEEDLING.—This is the name of a new variety raised by Mr. H. Lawrence, of New Orleans. Two years ago, Mr. Lawrence informed us he had raised a seedling, of good promise, and that if another season it proved as he expected, he would send us some of the plants; since then, however, we have not heard from him respecting it, and all we know of the variety we gather from what Mr. R. G. Pardee has said of it.

According to his statement it is a perpetual variety, bearing for six months, of good size and first rate quality. Whether it will prove to be perpetual in our climate remains to be proved. Mr. Peabody, of Columbus, has produced strawberries for six months in succession, as we have shown in our present and preceding volume; but the same kind which

he found perpetual in Columbus, Ga., is not so here, by our ordinary mode of treatment. It will be well, however, for amateurs to give it a trial.

Mr. Pardee has plants of it growing in his garden, at Palmyra, N. Y., and another spring, or perhaps the present summer, he will be able to prove its perpetual character and other qualities.

Messrs. Bissell & Hooker, of Rochester, have raised three seedlings, one staminate and two pistillate, which are reported "of good promise, great productiveness, and well worthy of further trial." No names are given. •

All these varieties should have a fair trial before any correct opinion of their merits can be formed; and we hope some of our amateur cultivators will give them a chance. In England, the British Queen and Keen's Seedling still take the lead, carrying off the principal prizes; none of the recently introduced kinds, of which so much has been said in the advertisements, can compare with them for size, beauty, productiveness, rich flavor, &c. It is not possible now for a small, or even a medium sized strawberry to take a premium; and in this respect the judgment of the English cultivators is still worthy of example. A fruit must be estimated by its *combined* merits, and one of the greatest is size; unless a variety has this, no matter what the other qualities may be, (unless something decidedly bad,) it will not obtain a prize. Indeed, after thirty years of labor in bringing the strawberry up to its present immense size, to go back would be a retrograde movement which no intelligent cultivator would think of.

In awarding a strawberry a prize, it should be of such merit that the judges will not have to frame an excuse for the justice of their award. It should be without ANY QUALIFICATION THE FINEST FRUIT; taking size, color, flavor and beauty together: anything less than this will not do. If our fruit committees were to give the prizes for pears on any other conditions, why the Seckel would always take them; yet where is the amateur who would have more than *one* tree of that variety in his collection, while of the Louise Bonne of Jersey, Bartlett, Dix, Flemish Beauty, Marie Louise,

and other large, superb and delicious sorts, he would take from four to six of each? Why then mislead the amateur cultivator by any such qualification as that of the Albany and Rensselaer Horticultural Society, viz., "NOT SO DESIRABLE A VARIETY FOR CULTIVATION as some others"? or as that of the Genesee Valley Horticultural Society, "most valuable for HOME cultivation"?

We may be in error, and if so, we can only say that it is an error concurred in by most pomologists in our vicinity. The Massachusetts Horticultural Society have often refused to give a premium for superior specimens of the White Doyenné pear, as by doing so they might mislead many who are new beginners as horticulturists, and take such reports as a sure test of the merit of a fruit; and, as a consequence, they might plant out many trees of this variety, and lose years of valuable time, finding out in the end, to their great disappointment, that though tip-top as to quality, very uncertain as a crop, and only "adapted to certain localities," as the pomological conventions have said; or, grown upon the quince, as we would say.

We think these instances are sufficient to adduce to show the error of giving a prize to a fruit which is not, in the language of the pomological rules adopted by several societies, "AT LEAST EQUAL, IF NOT SUPERIOR, to any similar varieties of the first rank already known."

ART. VI. *The Cultivation of the Cyclamen.* From the London Horticultural Magazine.

IN one of our earliest volumes, will be found an article on the growth of this very beautiful and much neglected plant. From February to May, no plant more richly repays the room, care and attention given to it, than this: during that period it continues to throw up a succession of its singular, yet beautiful and exceedingly fragrant blossoms. Trusting that it may not be lost sight of in the rapid introduction

of new things, we copy the following excellent article on its treatment. Those who wish to know what success we have had will consult our article alluded to:—

The name of this genus is derived from the Greek *kyclicos*, circular; which term was applied to them by Linnæus, in allusion to the circumscription of their leaves, the outline of which, in the majority of the species, is more or less round, though not strictly circular. The common name is Sow-bred.

The plants themselves form one of the most distinct and pretty groups which are brought under cultivation. They are all dwarf herbs, having flattened fleshy tubers, from which both leaves and blossoms spring up, in a more or less dense tuft, according to the peculiar habit of the different kinds. Sometimes, under good cultivation, the flowers preponderate in number over the leaves; and in some cases two or three hundred blooms are produced at one time, when the plants are strong and in good health. This character is attained chiefly by the *Cyclamen persicum*, which is the most common of the tender species, the most varied in its flowers, and perhaps the most beautiful of all.

The blooms of the *Cyclamen* family are of a most singular form: they are monopetalous; that is, they consist but of one piece, which is made up of a very short tube, by which they are united to the flower stalks, and a comparatively large recurved limb, of five segments, which, from their being so deeply divided, look like distinct petals; naturally their face would be towards the earth, but the segments are bent upwards quite at the base, and the effect is, that the entire inner face of the corolla is exposed to the eye, while the back is as completely hidden.

CULTURE.

The cyclamen is one of many modest yet beautiful plants belonging to the natural order Primulacæ to be met with in a cultivated state. It is somewhat surprising that it is not more generally cultivated, either in private gardens, for the

sake of display, or commercially, for the purpose of gain. It is a plant well suited for amateurs, as it takes but little space, and may be turned out of doors in a northern aspect, when it has done flowering, to make room for other plants. The treatment of these plants is not so difficult a matter, but that any one may grow them who has the convenience of a two or three-light frame, to protect them in the winter from frost and excessive rains, which latter do them more harm than slight frosts. Some who have grown, or attempted to grow cyclamens, have not met with the success they anticipated; this disappointment is traceable in the beginning to the existence of disease, caused either by giving too much or too little water at particular periods. These are the two main things in which inexperienced cultivators are liable to fail; for they are plants that are soon seriously damaged by an over-dose of water when at all dormant, on the one hand, and on the other hand, by being allowed to get too dry in the growing season.

RAISING FROM SEED.

This is the best mode of propagating the cyclamen, though it may seem a long and tedious way of getting flowering roots; it is, however, the surest method, as you then know the constitution of your plants, which is of material consequence in plant growing. For the sowing of cyclamen seeds, some persons recommend the period immediately after the ripening of the seed. Others defer the operation until the spring. This latter is the best and safest way, those sown in autumn being apt to damp off in the dull winter season. The beginning of March is a good time for seed-sowing; and the operation is performed in the following manner:—Prepare ordinary seed pans, selecting those which are about four inches deep. They are prepared by filling them, first with about an inch of broken potsherds, then a layer of rough peat or moss, then a compost consisting of one half peat made rather fine, one fourth friable loam, and one fourth silver sand; or drift sand will answer the purpose, if white sand is not at hand. With this compost the pans are filled

up to within an inch of the top. The soil is then to be pressed down lightly, and the seed scattered thinly over the surface. The seeds are covered in by sifting about half an inch of fine soil over them, which is to be pressed down rather firmly, and then moderately watered. The seed pans are then to be covered over with a thin layer of loose moss to keep them moist; this prevents evaporation, and does away with the necessity for frequent waterings. Place the pans in a frame or pit, which should be kept close until the seeds begin to germinate; then shade them, and give a little air in fine weather. Or they may be set upon the shelves of a greenhouse, which will answer as well as a frame. When they are pretty well established, they may be potted into single pots.

TREATMENT OF THE YOUNG PLANTS.

The seedlings must be potted off into separate pots as soon as they have made two or three young leaves. Get some of the same kind of compost as that used for seed-sowing, and have it made rather fine. The pots used should be large thumbs, or those which are three inches in diameter. Take the strongest plants out of the pans, without damaging the roots more than can be avoided. The plants must be carefully separated, so as not to damage or break off the leaves, which are attached by rather brittle stalks. In potting, the soil must be pressed rather firmly around the base of the plant; and after potting they must be put back into the frame, where they should have a good watering, and must be kept quite close and well shaded until they begin to root round the sides of the pots. When this is the case, they must have more air and less shade until they are quite hardened, when the lights may be left off entirely, except during heavy rains, when of course they must be put on, to keep the soil from becoming saturated with water. The young plants that are left in the seed pans may be thinned out, if too thick, and a little fresh soil may be added to fill up the openings where the young plants were taken out; after which they should be watered and put in a shady place in

the open air, that they may grow hardy and stunted. The plants so treated will make good plants for potting off the next year.

As the plants show signs of becoming dormant, water must be withheld to a great extent until the following season. They will recommence growth about the latter end of March or the beginning of April. As soon as this is observed, they must be turned out of the thumb-pots and shifted into three-inch or four-inch pots, according to their size, using the compost a little coarser than that employed for the young seedlings. Select those only for shifting that have begun to grow. After shifting, keep them close for some time, admitting a little air in the middle of the day, but shutting them up early in the afternoon, to raise the internal temperature. After they begin to root round the sides of the pots, they must have a little manure water. Cow-dung will form the most suitable liquid for them, and it should be prepared thus:—to three gallons of soft water add half a spadeful of the dung, which will make it strong enough for them; this must be well stirred up two or three times, and then allowed to settle, the clear liquid only being given to the plants. This manure must only be given them when they are in full health and growing freely or blooming; and must be no more applied after there is the least sign of the decay of the leaves. From this period all the water they require, which will be but little, must be given to them in a pure state; and the proportion will vary according to the stage at which the resting process is arrived. By the time the plants are quite matured, they will, if kept in a frame, require scarcely any water; the dampness of the frame will most likely keep them moist enough. In this case the pots should be laid on their sides, in order that they may not catch any drip from the sashes during wet weather; they may remain in this position until the following spring. It is to be understood that the plants are not to be dried off completely, or so far as to destroy all the leaves. If the plants have to be rested in a greenhouse, the shelves of which afford a very convenient place for the process, they must not stand through the resting

period without water ; but should have just enough to keep the leaves from dying off completely. The less they can have, so that this is secured, the better.

Mr. Mitchell, of Stokeley, some few years since, proved peat soil to be very conducive to the growth of these plants. He states, that although for many years he has raised seedlings by the thousand, he had never been enabled to bloom them in less than three or four years from the seeds (except *C. coum*) until he used peat soil in a very rough state, mixed with sandy loam, in the proportion of six parts of the former to one of the latter. The seeds were sown in June, as soon as they had ripened, and the pots containing them set into a cool frame till the March following, when many of the *C. persicum* produced flowers ; this was before they were one year old. The peat earth employed was full of fibre, but with scarcely any sand, and was obtained from a dry elevated situation where the common heath abounds.

TREATMENT OF THE MATURED PLANTS.

There is some slight difference in the management of the young plants and of those which have reached maturity. Supposing the plants to have gone on favorably until they have reached the commencement of the third season, when they will have formed pretty strong tubers, you must now use for them the following compost :—one fourth of maiden loam, one fourth peat earth, one fourth silver sand, and one fourth of well decomposed leaf soil or cow-dung ; these ingredients must be well incorporated preparatory to repotting the tubers, which is the next process. Turn them out of the pots, and if the roots are sound and healthy, repot them, or at least the strongest of them, into six-inch pots. In doing this, take away as much of the old soil as can be removed without injuring the roots. Prepare the pots, which should be new or clean washed, carefully ; use plenty of potsherds ; about one fourth of the depth of the pots should be filled with this material ; then put a layer of the roughest fragments of the soil on the potsherds, and on this use the ordinary mass of soil, which should not be rubbed or sifted very fine,



but should contain rough turfy lumps of moderate size to keep it open. Set the bulbs in the pots so that one third of their surface may be exposed at the top of the soil, and make the soil moderately firm, in the ordinary way. Water them until you are satisfied the soil is wetted through. Keep them close and shaded until the leaves acquire a firm appearance; then inure them to the sun-rays by degrees, until they get well established so as to bear full exposure, when they may be turned out of the frame and placed in a northern aspect, in which they may grow and mature their foliage, and remain until they manifest symptoms of maturity in the autumn. While in this situation they must be sparingly watered, and subsequently, if wintered in a frame, as before explained, the water must be entirely withheld. If this plan of keeping them is adopted, they must be placed in the frame in the same way as before, and treated similarly. After this, the tubers may be considered to have reached a mature flowering state; and indeed it is highly probable that blossoms will have already been produced, though, for the sake of strengthening the plants, it is well to have these early blooms removed.

TREATMENT FOR BLOOMING.

After the plants are thus fully established, it is an easy matter to bloom them. It will be found that some of the bulbs start much earlier into growth than the others; these should be repotted first, using the same kind of compost as before, and the same proportion of drainage materials likewise. Encourage these as much as possible by liberal treatment, keeping them rather warm and moist. In this way there will be a succession of flowering plants, from March or April, until June. It is a convenient plan to divide the plants into three batches, which can easily be done, by placing some of them in a shady situation, and shifting them at different intervals until all are done. The first batch of them, after they have done flowering, must be put in a shady place, and watered with caution, so that they may keep their leaves healthy and perfect; these being rested, will be the first to

start the next season, and the others will follow them in succession.

CULTURE AS A WINDOW PLANT.

There is scarcely any class of plants better adopted for a window, than the cyclamens. Of small size, neat habit, and easy management, and bearing beautiful blossoms in profusion, which, in properly selected varieties, are deliciously fragrant, there seems to be no quality wanting to render them just what window plants should be.

The odoriferous varieties of *Cyclamen persicum* are those which should be chosen for domestic culture; and the process of cultivation is nearly the same in this case as in the greenhouse. They require an airy situation, and a carefully limited supply of water; that is to say, they are by no means what may be called thirsty plants, although, on the other hand, the soil must not be suffered to become very dry. The plants do not suffer from exposure to the sun. As the plants may be liable to sustain some rough treatment, especially as to watering, it is, in this case, very important to pay attention to the manner of potting the tubers; they must not be entirely buried in the soil, as is the case in planting many bulbous roots, but should be left about half exposed, the lower half only being placed in the soil. That soil should consist of loam, peat and leaf mould, in about equal proportions, to which compost enough silver sand should be added to prevent anything like adhesion amongst its particles. The pots must be very carefully drained, with a layer of potsherds, charcoal, or some such material, occupying about one fourth of the depth of the pot: which latter ought to be large enough to allow an inch of clear space all round the tuber, between it and the pot.

Young plants may be raised as well in the window as in the greenhouse, and by precisely the same process. The tubers are not to be suffered to dry off completely, as some recommend, but should be kept plump throughout their existence; although at that period, when they are not in active growth, they ought to be kept much drier than when making

their growth. The best plan is, as soon as the leaves have decayed, to plunge the pot containing the tubers in the open ground, in some convenient place, so that the pot may be an inch below the surface of the ground; this will keep the tuber from being subjected, during its resting time, to the alternations of drought and moisture, to which it is exposed when kept in the ordinary way, and in which case occasional watering becomes necessary. Under this treatment, an uniform degree of moisture about the tuber is more nearly realized, and it thus may be, as it should be, so regulated that the amount of moisture present may neither be too great nor too small. In this state the tubers may remain during the summer. Towards the approach of autumn, say by the middle of September, the young leaves ought to make their appearance. When this is the case, the pot should be brought up to the level of the ground, in which situation it may remain, with carefully regulated waterings, as long as the character of the season will admit; it must, however, neither be touched by frosts, nor saturated by heavy rains. Henceforward, the pots must be placed in the window, subject to the provision of exposure to light, and to as much air as circumstances will admit.

Plants of *Cyclamen persicum*, so managed, will come into bloom at the ordinary blooming season, which will vary, say from February to May, according to the characteristic peculiarities of individual plants. But they may be had in bloom earlier, if they are required, and this result is obtained by the application of some extra heat, which cyclamens bear very well.

ART. VII. *Notes on Gardens and Nurseries.*

HAWTHORN GROVE, RESIDENCE OF HON. M. P. WILDER,—
AUGUST 17TH, 1852.—It is sometime since we visited the garden of Mr. Wilder, whose collection of plants, more particularly, we have so often noticed in our several volumes.

Our visit at this time, and at this season, however, was made mostly for the purpose of inspecting the collection of fruit trees, which embraces many new kinds. Owing to the highly favorable year, every tree, of any size, is bearing a larger or smaller crop, and among the number are some new sorts which have not before fruited.

Since 1850, the trees have grown up so rapidly as to essentially change the features of the grounds. The borders were now gay with a display of phloxes, verbenas, &c.; and the older fruit trees, which fill the squares, were loaded with immense crops. In the greenhouse we found but little in flower, except some Japan lilies, and achimenes, of sorts, one of which, *A. Brockmännii*, is a new and pretty variety, something in the way of *grandiflora*, but much superior to it; the beautiful *A. gloxinæfolia* was displaying several of its large and exquisitely spotted blossoms: it is one of the best of the group. Mr. Bock, the gardener, is well known to our readers by his excellent communications, and the flower department appeared in fine condition.

Mr. Wilder's trees are a mixture of standards, half standards, and pyramids; the oldest being mostly standards upon the pear; those of more recent planting are dwarfs or pyramids, and many of them upon the quince. In this fruitful year, almost every tree, two or more years from the bud or graft, has more or less fruit upon it; and a great many new kinds, of which we as yet know but little, except from foreign catalogues, are in bearing, and will afford an opportunity to test the quality of the fruit. Such of them as appeared particularly promising we noted down among the older sorts.

The Beurré Langelier, which we have already figured and described, looks exceedingly well, and promises to be a most valuable winter fruit; not a spot or blemish disfigures its smooth and glossy skin, and in size it comes fully up to the Napoleon. Beurré Superfine, large and handsome. Ananas d'Ete, a pear described in the *Horticulturist* as new and fine, sent by Mr. Manning to Mr. Comstock, N. Y., appears to be the Cushing, though yet uncertain, as the specimens were not ripe. Baronne de Mello, a russety pear, of somewhat the

appearance of a Brown Beurré, bears well and is large. La Hérard, new, looks somewhat like the Urbaniste, but is larger; it is said to be an excellent October pear. Gideon Paridant and Gustave Burgoyne, both new, look well.

Much confusion exists among the pears denominated Calebasse Monstreuse, Calebasse Grosse, &c. M. Langelier, of Jersey, described one as measuring eight inches long, and weighing twenty ounces; but the one he sent us, with this description added, proves to be a worthless fruit: the Calebasse Monstreuse, of Mr. Manning, was large, but only a second or third rate pear: Mr. Wilder appears now to have the true one; as a small tree was bearing two or three very long pears. Doyenné Goubault is a large roundish pear, a good bearer, but an ordinary looking tree. Bezi Goubault is another variety of promising appearance. A variety received under two or three different names, but more particularly as the Vander Weyer Bates, has much the handsome appearance of Louise Bonne of Jersey, and bears equally well. Beurré Knox is nothing more nor less than the Madotte, a cooking pear. Kirtland's Seckel was producing a specimen or two, sufficient to give a chance to try its quality. Other new ones, bearing a few specimens of good appearance, were Grand Soliel, St. Francois, Marshall de la Cour, La Marie, Jacob, Poire Pêche, Bergamot Gaudry, Beurré Bretonneau, &c.

The Rostiezer is certainly one of the finest of our summer pears; hitherto we have thought it too small to give it a high rank, notwithstanding its delicious, spicy, Seckel-like flavor; but its smallness has been the fault of cultivators; this year it comes up to the full size of a medium pear, being here as large as the St. Ghislain, and we have seen specimens even much larger from other places. It is an enormous bearer, and hangs, as the usual phrase is, like "strings of onions" from the tree; we counted no less than nine handsome pears from one cluster of blossoms. The beautiful colored plate in our *Fruits of America*, which some amateurs thought too large, does not near come up to the size of the specimens this year.

The nursery grounds were in excellent order, and all the

trees appeared to be making a vigorous growth, notwithstanding the dry season. We notice that Col. Wilder makes use of seaweed for mulching his bearing trees: where easily to be obtained, near the seashore, it is one of the best substances for this purpose, as it not only attracts but holds the moisture for a long time.

RESIDENCE OF JOS. STICKNEY, ESQ., WATERTOWN.—Strange indeed is it to see how slight a circumstance may change and mould a taste for objects previously of no interest whatever. Some years ago, when the taste for the culture of that gorgeous flower, the Dahlia, was carried to a greater extent than now, a gentleman, whose time was almost incessantly occupied in commercial matters, and who possessed only a few square feet of garden, in the rear of his dwelling, in the city, was struck with the splendor of one of the exhibitions of this flower at the rooms of the Massachusetts Horticultural Society, and at once made up his mind to buy a few plants. Spring came and they were set out;—they flourished,—grew,—and all the autumn repaid the careful attention of a zealous amateur by a brilliant display of flowers. This was grand success for a beginner. Another year came round, and the dozen sorts were augmented to fifty, and still the same success. Delighted to find himself so well repaid, (unaware it was entirely owing to that love which spared no pains for the welfare of the plants,) the newest and finest sorts were procured, and another season he not only became a competitor for the prizes, but actually carried some of them off!

But with a few feet of land, already over-filled, there was no room for further additions to his stock, and he must add more or grow a less number of plants; the latter could not be done, and another hundred feet of ground, worth almost as many acres, a few miles from the city, was added. But now other objects divided his attention. The grand displays of fruit were so rich and inviting that to be a mere admirer would not do: why should not success attend the growth of fruit as well as dahlias; there could be no doubt of it. His resolve was made, and the corners were filled with young

pear trees. On they went, growing, thriving, pushing up their vigorous shoots, and spreading out their leafy branches, making sad inroads upon the territory of the Mexicans, and, in fact, showing a disposition to dispute all the ground they had heretofore occupied. Time rolled on, golden fruit hung from their heavily laden boughs, and a rich harvest crowned the efforts of the cultivator of the city garden.

And now accompanying him further, we find ourselves on a beautiful spot, on the banks of the river Charles, in the pretty village of Watertown, overlooking its flowing waters on one side, and the thickly settled plain on the other. Terraces, of immense size, covered with trees in full bearing, all the work of half a dozen years, rise one above another and skirt the river bank. Ascending by several flights of steps, we reach a broad plateau, on which stands the mansion, in the olden style, large, capacious, without ornament, but with that essential of the country house, comfort. It is reached from the front by an avenue from the Milldam road, and is screened in that direction by a grove of gigantic pines, oaks and hickories.

Such is the residence of Mr. Stickney, who was fortunate in purchasing, eight years ago, the estate of Madame Hunt, containing about thirty-five acres, accessible in twenty minutes, by the Watertown Branch Railroad, the station being within five minutes' walk. Few places more capable of being made a perfect villa residence are to be found in the vicinity; and the possession of all this, now under a high state of culture, and affording so much enjoyment to its owner, has been the result of his admiration of a beautiful flower.

We have not time or room to record all the improvements which have been made in breaking up, subsoiling, and planting a great portion of the place, which is cultivated with vegetables, principally for Boston market, and shall now confine our attention to the collection of fruit trees, to which Mr. Stickney has devoted much of his personal attention since he purchased the grounds.

The principal plantation is a garden of pears, situated in a kind of alcove, immediately on the river, facing due south,

sheltered by ground which rises rapidly on the east and west, and gently towards the north, being much in the form of a horse-shoe, or, to use the proprietor's term, "a scoop." The soil is a strong clayey loam, and would be subject to drought but for the constant moisture which drains through it from the high ground around it. Only a south wind can have much effect on the trees. It is consequently well adapted for a pear orchard, refreshed as the foliage is by the vapor from the river, which is often very heavy.

In this locality there are upwards of five hundred trees, of all the leading kinds, such as Bartlett, Beurré Diel, Marie Louise, (which Mr. Stickney, acting under the advice in our pages, continued to set out, though condemned by many,) Le Curé, Beurré d'Amalis, Louise Bonne of Jersey, Flemish Beauty, Long Green, (old,) Easter Beurré, Passe Colmar, Glout Morcean, Dix, Belle Lucrative, &c., &c. The trees are eight feet apart each way, are mostly on the quince, and generally handsome specimens, pyramids and low standards, all planted since 1845, and, with few exceptions, now in full bearing. Before setting out, the ground was trenched, and the trees have been well mulched. To these two causes, undoubtedly, may be attributed the rapid growth of the trees, which were of good size when planted.

Individuals who argue that

"He who plants pears
Plants for his heirs,"

will here find the best refutation of such a distich, the supposed truth of which has prevented many persons from planting trees, believing that they would not enjoy the fruits from them, selfish as such an idea is. Many of the Le Curés, Beurré D'Amalises, and Glout Morceaux, were loaded with fruit, and beautiful specimens too. One advantage Mr. Stickney has in supplying water; a pond between the house and the main road is a few feet higher than the pear garden, allowing of a good supply, except when the water is very low, when it is drawn up by a syphon, so as to fill a large reservoir. By this means the trees can be readily watered at any time.

On the place were a great number of old apple trees; these have, many of them, been engrafted, and at present Mr. Stickney has all the best kinds in bearing; among others we saw the Melon, one of our finest native apples. The plum trees were breaking down with the load of fruit; and they were quite free from the black knots, which have proved so troublesome. Mr. Stickney's trees were affected in this way, but by constant perseverance in cutting them off and destroying them, they have been nearly or quite eradicated. We are no believer in the *fungus* theory, though we may yet be convinced of it; and we must, until further research, attribute them to the work of the *curculio*, or some other insect.

Such are the results of a zealous interest in horticultural pursuits, undertaken at a period when many persons think it is too late to begin, with the hope of reaping any results in their own lifetime. We trust that such success as we have now detailed will dispel this idea, so great a bugbear in the way of progress, and induce all who have any interest in such pursuits to commence at once, assured that but a few years are necessary to reap the fruits of their labors.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Domestic Notices.*

SEMPERVIVUM ARBOREUM.—C. M. Hovey, Esq., Editor of the Magazine of Horticulture, Botany, &c. Sir: In the prospectus to your Magazine, you offer to answer any inquiries relative to horticulture, &c. I see that others have availed themselves of that privilege, and therefore presume to follow their example. Ten or twelve years since, I had given me a young *Sedum* tree. It grew beautifully for a while, and then, in spite of all the care I knew how to bestow, dwindled away, until its long, bare, crooked stems, with stunted clusters of leaves at their extremities, were a disgrace to any body's flower keeping. Still I kept it, hoping it might blossom; it certainly looked old enough,—but, after eight years' trial, I threw it away and commenced again. I have now a young thrifty plant, three years old, but unless my knowledge increases, it will follow its predecessor in all its ugliness and decay. Will you please inform me what peculiar cultivation it needs? Is the blossom beautiful, or is the bright luxuriant green of the

young plant its only claim to notice? It is vexing to try so long and fail at last. Can one succeed who has not the conveniences of a greenhouse? I know not its native country, the soil and situation where it grows in a state of nature,—nothing respecting it, except that, when young, it promises well: but soon the leaves gradually decay and fall, leaving in their stead long bare stalks. I am by no means sure that I have ever known the true name of the plant, though I have supposed it correct, from the resemblance between its leaf and those of the low, trailing variety cultivated in gardens. Any information you may give will be gratefully received. Have I not shown how much it is needed?—M. N. *Weymouth, May 25th, 1832.*

[We certainly owe an apology for not answering our correspondent sooner. The plant is the *Sempervivum arboreum*, an old inhabitant of our collections, but rarely seen in bloom. The flower is nothing remarkable, and its chief beauty is the regularity of its thick fleshy foliage, and its evergreen appearance. The blossoms appear in a large spike, are yellow, and though numerous and showy, not of much intrinsic beauty. It is somewhat difficult to bloom freely. It requires to be grown vigorously for a year or two, and then dried off to ripen the wood,—after which it will ordinarily bloom. If kept growing constantly, winter and summer, it would be likely to continue in the same habit which our correspondent has mentioned.

From this time till spring, keep the plant rather dry,—quite dry in December and January,—and if it shows no signs of bloom, repot in March, water more liberally, and get up a strong growth: then dry it off again on the approach of winter, and it will undoubtedly bloom the following spring. By such a course of treatment, we once had a plant with a spike of flowers nearly two feet long, which was, in our then younger days, quite a triumph. It is a native of the Levant. Ed.]

RAPID GROWTH OF CUCUMBERS, BY THE USE OF POUDETTE, GUANO, &c.—I send you a remarkable instance of rapid growth of the cucumber. On the first of April, I sowed altogether in hills prepared with pouquette, cucumber seed. The produce has been remarkable. From one vine I cut *six dozen* at one gathering, and the vines are yet in full bearing. On the 3d of June, I planted again, with a compost made with two loads decomposed litter, a small share of night soil, one barrel of ashes, and forty-two pounds of guano,—all thoroughly mixed together; of this, I added three shovelful to each hill. The vines have covered all the ground, and are now (July 3) in full bearing. I have found the same compost equally valuable for melons. In the preparation of this manure, peat, litter, or leaves is capable of fixing the ammonia, the great source of food to the roots of plants. I have made use of it in growing cabbages and cauliflowers, for which it proves to be a quick fertilizer.

I have used vitriolized bones as a top-dressing to grape vines, and in one case applied it to an old plum tree, of the Green Gage variety: the tree had been forgotten for a long time, and had been left to the mercy of the curculio. I applied fourteen pounds to the tree, and it now assumes a new appearance. To a grape vine the same quantity is equally fertilizing.

As to the properties of guano in growing turnips in a sandy land, where

it has been tried at the rate of one hundred twenty-five pounds to the acre, the produce has been treble of that manured with ordinary stable dung. The ground was thoroughly ploughed, and the guano harrowed in, and the seed sown the first of February.—Yours, J. McDONALD. *Bagdad, Florida, July 6, 1852.*

ART. II. Horticultural Societies.

LINCOLN AGRICULTURAL AND HORTICULTURAL SOCIETY, MAINE.—We are glad to see our sister State is about taking a deeper interest in the cultivation of fruits and plants, and the means of more widely extending a rural taste. Only one horticultural society, we believe, exists in the State, viz., that at Bangor. It is therefore with pleasure that we announce a new association for the county of Lincoln, an act for the incorporation of which was passed in April, upon the petition of our zealous correspondent Mr. A. Johnson, Jr., and other gentlemen interested. Mr. Johnson is always found leading in any movement to improve the soil, and we doubt not a society organized through his exertions will go on flourishing, and to flourish and accomplish valuable results. We shall look with interest to a report of its exhibitions.

GENESEE VALLEY HORTICULTURAL SOCIETY.—At a special meeting of the Horticultural Society of the Valley of the Genesee, held in the city of Rochester, August 12, 1852, the president, on calling the meeting to order, stated that he had called the members together at the suggestion of others, and in accordance with his own feelings, to express in some suitable manner the feelings of the members in regard to the sudden and melancholy death of A. J. Downing, who had been for many years an honorary member of this society.

On motion of M. G. Warner, a committee of five were appointed to prepare resolutions for the consideration of the meeting.

The president appointed M. G. Warner, Jas. H. Watts, H. E. Hooker, Geo. Ellwanger, and A. Frost.

The committee, through their chairman, reported the following preamble and resolutions,—which were unanimously adopted:—

Whereas, in the death of A. J. Downing, American horticulture has lost its noble and gifted standard bearer, and society one of its most amiable, accomplished and useful members,—who has done more than any other to awaken among the American people an appreciation of their country's resources, and to cultivate and diffuse a love for the beautiful in nature and art,—whose writings, brilliant and powerful in style, and truly American in sentiment, have given us a horticultural literature which commands the admiration of the world,—therefore,

Resolved, That we regard his loss as one of the greatest that could in this day befall the American people in the death of any one man,—that we

deeply sympathize with his afflicted friends and relatives, truly "mourning with those who mourn" for the loved and lost.

Resolved, That though Mr. Downing is no more, and his voice is hushed in death, yet he still speaketh,—his works will live after him, and his influence be felt while correct taste has a disciple or a home in the earth.

Resolved, That we recommend the horticultural societies of this country to take some united action, to testify in a suitable manner their regard for the memory of Mr. Downing; and that a committee of three be appointed to correspond with other societies on the subject.

P. Barry, L. Wetherell, and James H. Watts, were appointed a committee in accordance with the resolution.

Resolved, That the proceedings of this meeting be furnished the various horticultural papers, with a request to publish the same, and a copy thereof be forwarded by the president of the society to the family of the deceased.

NEW YORK HORTICULTURAL SOCIETY.—At a meeting of the society, held August 2d, 1852, appropriate resolutions on the death of Mr. Downing were adopted, which will be found on a preceding page.

THE RHODE ISLAND HORTICULTURAL SOCIETY, in connection with the Rhode Island Society for the Encouragement of Domestic Industry, will hold its annual exhibition on the 15th, 16th, 17th and 18th of September, at the Hall of the Railroad Station in Providence. On the 17th, a public address will be delivered by Geo. R. Russell, Esq., of Roxbury; the hour and place to be announced in the newspapers.

Liberal premiums are offered for fruits, flowers and vegetables, and a fine display may be anticipated. Stephen H. Smith, Esq., is chairman of the board of managers.

ART. III. *Massachusetts Horticultural Society.*

Saturday, July 24th.—Exhibited. FLOWERS: From Mrs. A. J. Lord, a plant of *Echinocactus Eyriessii*. Bouquets and cut flowers from Winship & Co., R. G. Bell, E. M. Richards, T. Page, J. Hovey, W. Kenrick, Jas. Nugent, Miss Mary M. Kenrick, and P. Barnes.

GRATUITIES AWARDED.

To R. G. Bell, for hollyhocks, \$2.

To P. Barnes, for cut flowers. \$2.

To Winship & Co., for cut flowers, \$2.

To Mrs. A. J. Lord, for *Echinocactus Eyriessii*, \$1.

To Jas. Nugent, Wm. Kenrick, M. M. Kenrick, and T. Page, for cut flowers, &c., \$1 each.

FRUIT: From Hovey & Co., handsome Early Crawford, and Coolidge's Favorite peaches. From A. D. Williams, Red and White Dutch currants. From J. A. Kenrick, Belle Magnifique cherries. From Capt. J. Lovett, Gondouin currants, very large and fine; Knevet's Giant raspberries. From Geo. Wilson, Gondouin, Victoria, and White Dutch currants, very fine

From J. McClellan, gardener to J. P. Cushing, Persian melons. From Jas. Damon, peaches. From H. Vandine, Madeleine pears. From J. F. Allen, Violet Hative and Newington Nectarines, very fine; also Cannon Hall Muscat, Black Portugal, and White Nice grapes.

FRUITS TESTED.—From J. F. Allen, Cannon Hall Muscat. From J. McClellan, Persian melon, fine.

[The following note, to the committee, accompanied the handsome specimens of gooseberries exhibited by Mr. Amory, July 17:—

Gentlemen—Having failed entirely in the culture of gooseberries, I had abandoned the attempt, when, having observed that some one at the south had succeeded by paving under the bushes, I procured some new plants, which I set out in the middle of a row of paving about two feet in width. The result is entirely satisfactory. JAMES S. AMORY, Brookline.]

VEGETABLES: From Josiah Crosby, West Cambridge, beets, carrots, cabbage,—fine. From Wm. A. Harris, Newton, Manly potatoes,—good.

July 31.—An adjourned meeting of the Society was held to-day,—Vice President Richards in the chair.

On motion of Mr. Walker, and seconded by C. M. Hovey, who briefly alluded to the death of Mr. Downing, it was voted, that Messrs. Walker, C. M. Hovey and King, be a committee of three to report appropriate resolutions at the next meeting. Adjourned one week, to August 7.

Exhibited.—**FLOWERS:** Bouquets and cut flowers from Winship & Co., W. E. Carter, J. Hovey, P. Barnes, R. G. Bell, Miss Russell, J. Nugent, Mrs. L. Spaulding, M. M. Kenrick, and E. M. Richards.

GRATUITIES AWARDED.

To Winship & Co., Miss Russell, Mary M. Kenrick, P. Barnes, R. G. Bell, and W. E. Carter, for cut flowers, bouquets, &c., \$1 each.

FRUIT: From Hovey & Co., Early Crawford peaches, (extra,) Hardwicke nectarines, and Doyenne d'Ete and Madeleine pears. From J. Stickney, Madeleine pears, fine. From F. Burr, Red Astrachan apples. From A. D. Williams, Madeleine pears. From G. Merriam, Madeleine pears, and extra fine Improved High blackberries. From J. Richardson, Jaune Hative plums, and Improved High blackberries.

From S. Walker, Doyenne d'Ete and Madeleine pears. From S. Downer, Jr., apricots. From C. E. Grant, fine Improved High blackberries. From M. H. Simpson, Early York peaches. From R. M. Morse, handsome Early Harvest apples. From H. Vandine, Jaune Hative plums, and Madeleine pears. From C. H. Morse, Madeleine pears, from a tree on the old Inman place, Cambridge, one hundred years old. From Jos. Lovett, fine Crown Bob gooseberry, and Houghton's Seedling; also Victoria currants. From J. F. Allen, fine Violet Hative peaches, Violet Hative nectarines; grapes—Cannon Hall, White Nice, De Candolle, Black Hamburg, and White Portugal. From J. Hovey, handsome Early Harvest apples.

PREMIUMS AWARDED FOR FRUITS.

STRAWBERRIES.—For the best specimens, to J. B. Moore, for Hovey's Seedling, \$6.

For the second best, to Jm. Richardson, for Hovey's Seedling, \$1.

For the first best, to O. Johnson, for Hovey's Seedling, \$2.

CABBAGE.—For the best specimen, to M. H. Simpson, for Black Tautou, \$5.

For the second best, to J. Greenleaf, for Black Tautou, \$2.

For the third best, to Gen. Walsh, for new Black Tautou, \$2.

GRAPE.—For the best specimen, before July 1, to Wm. Young, gardener to Mrs. F. B. Duffee, for Victoria and Black Hamburg, \$10.

For the second best, to J. F. Allen, for an assortment, \$7.

PEACHES.—For the best specimen, under glass, to J. F. Allen, for Grand Merveille, \$5.

For the second best, to Hovey & Co., for Clinton, \$4.

August 7th.—An adjourned meeting of the Society was held to-day,—the President in the chair.

Mr. Walker, from the committee appointed for that purpose, reported the following preamble and resolutions, which were unanimously adopted:—

The Massachusetts Horticultural Society have been startled and pained by the intelligence of the sudden death of their co-laborer and friend, A. J. Downing, Esq., of Newburgh, N. Y., a passenger in the ill-fated steamer *Henry Clay*.

Eminent, alike as a horticulturist, a landscape gardener and an architect, Mr. Downing has, in each character, made his mark upon the age. Where the grateful gardener plucks the rich fruit from the laden bough, there is his name known. Where taste has turned the unsightly pasture into the lovely lawn, and adorned with gems of the garden and the greenwood, there are his labors felt.

The humble cot he has made a picture of beauty, and the elegant mansion, reared by his genius, fills and satisfies the most nicely critical eye.

But he is gone! In a moment, as it were, and without warning, he has been called to pass the gloomy vale of death, and now rests

“Where rivers of pleasure flow over bright plains,
And the noon-tide of glory eternally reigns.”

In view of this unexpected and terrible stroke, by which this Society is deprived of one of its members, and the cause of horticulture of an eminent and earnest advocate, your committee respectfully submit the following resolves:—

Resolved, That the members of the Massachusetts Horticultural Society deplore the loss of their associate, who has done so much to advance and extend a taste for the kindred arts of agriculture, horticulture, landscape gardening and architecture.

Resolved, That in the death of the late Mr. Downing, horticultural and pomological science has sustained a severe loss. Distinguished alike for his private worth and public usefulness, and devoted to the pursuits of horticulture, landscape gardening, and all that pertains to the adornment of our rural homes, his memory will be cherished, and his decease severely lamented.

Resolved, That we tender the sympathies of the Society to the family, in their afflicting bereavement, and that the corresponding secretary be directed to communicate the above resolutions, &c., to his family.

Further Resolved, That the Hon. Marshall P. Wilder be solicited to deliver an eulogy on the life and character of the late A. J. Downing, Esq., at such time and place as the Society may hereafter designate.

The corresponding secretary was authorized to deposit in the Boston Athenæum, Historical Society, &c., the volume of the *Society's Transactions*, with plates. Adjourned two weeks, to August 21.

Exhibited.—**FLOWERS**: From A. Bowditch, six pots of balsams. From E. M. Richards, six varieties of *Martynia*, eighteen varieties of seedling phlox, bouquets, &c.

From Hovey & Co., a plant of *Achimenes longiflora alba*, new and beautiful; also seedling Japan lilies, seedling verbenas, *Lantana aurantiaca*, lilacina, camara, &c., and cut flowers. Bouquets and cut flowers from P. Barnes, Miss Russell, Miss M. M. Kenrick, J. Nugent, and others.

FRUIT: From J. Owen, pears—*Madeleine*; apples—*Early Harvest*, *Early Strawberry*. From C. Newhall, plums and apricots. From S. Dike, *Madeleine* pears. From E. King, peaches, fine. From C. W. Galoupe, *Royal apricots*, fine. From M. H. Simpson, *Red Astrachan* apples, fine; *Late Crawford* peaches, fine. From E. Brown, *Red Astrachan* apples; *Madeleine* pears.

From Hovey & Co., grapes—*White Frontignan*, *Black Hamburg*, *Grizzly Frontignan*, *Cannon Hall*; *Doyenne d'Ete* pears; *Murray nectarines*, fine; seedling peaches, extra fine. From C. E. Grant, blackberries, fine. From W. Stearns, apricots. From G. Merriam, blackberries, very fine. From J. W. Foster, seedling gooseberries, extra fine. From H. Vandine, apricots, plums, and apples. From J. Lovett, *Red Astrachan* and *Early Harvest* apples; *Madeleine* pears. From E. M. Richards, apples—*Early Harvest*, *Red Astrachan*, and *Early Bough*. From J. S. Cabot, pears. From J. B. Moore, *Madeleine* pears. From J. F. Allen, peaches, extra fine; *Newington nectarines*, extra fine; grapes in variety. From F. Burr, *Red Astrachan* and *Early Harvest* apples, both extra fine.

FRUITS TESTED: Pears, from S. B. Pierce, *Madeleine* and *Summer Thorn*.

August 14th.—*Exhibited*. **FLOWERS**: From Hovey & Co., verbenas—*Orb of Day*, *America*, *Nectar Cup*, *Rosy Morn*, and new seedlings. From W. E. Carter, seedling phlox, delphiniums, and other cut flowers. From J. Nugent, fine balsams and other flowers. Bouquets and cut flowers from P. Barnes, E. M. Richards, Winship & Co., J. Breck & Son, T. Page, J. Hovey, Bowen Harrington, M. M. Kenrick, Miss Russell, and others.

PREMIUMS AND GRATUITIES AWARDED.

BALSAMS.—For the best display, to J. Nugent, \$3.

GRATUITIES.—To P. Barnes, for cut flowers, \$2.

To Winship & Co., for do., \$2.

To W. E. Carter, and E. M. Richards, for cut flowers, \$1 each.

ART. IV. *Obituary.*

DEATH OF A. J. DOWNING, Esq.—We briefly announced the death of Mr. Downing in our last. He was one of the unfortunate number who came to a sad and untimely end by the burning of the steamboat Henry Clay, on the Hudson River. Mr. Downing was accompanied by his wife, Mrs. De Wint, of Fishkill, and Mrs. Wadsworth, of New Orleans; and it is supposed he lost his life in his exertions to save those with him, Mrs. Downing, of the four, being the only person saved.

Mr. Downing was an enthusiastic lover of nature, for the greater portion of his life a zealous and successful cultivator, and, withal, a ready, pleasant, polished, and interesting writer. Since 1843, he has published four volumes, viz., *Landscape Gardening*, *Cottage Residences*, *Fruits and Fruit Trees of America*, and *Country Houses*. These have each passed to one or more editions, and the *Fruits* had already reached the twelfth.

Nearly the earliest writings of Mr. Downing on Horticulture were communicated in our Magazine. Commencing with the first volume, he continued to give the results of his experience in our pages up to 1846, when he took the editorial charge of the *Horticulturist*. During that period, upwards of ten years, every volume contained one or more articles from his pen, in the varied departments of Landscape Gardening, Rural Architecture, Horticulture, and the general improvement of Rural Art. Indeed, to his valuable articles, we feel we have been much indebted for a great deal of the interest of our early volumes, when there were but few writers of such general information upon these subjects throughout the country.

In the death of Mr. Downing, the country has sustained a severe loss: few men, in so short a space of time, have done more to improve and model a taste for Rural art throughout the country. Just in the prime of life, when his labors were likely to become doubly useful, his untimely end has brought a shade of sadness over every friend of Horticultural Science and Landscape Art.

HORTICULTURAL OPERATIONS

FOR SEPTEMBER.

FRUIT DEPARTMENT.

Up to the 25th of August, the long and excessive drought of the summer continued: while we now write, (the 26th,) a heavy rain is falling, refreshing the parched earth, and saving the almost famishing crops of fruits and vegetables. Rarely, if ever, within our recollection, has less rain fallen in the months of April, May, June, July and August, than this year. We think we do not underrate the quantity in setting it at not over $3\frac{1}{4}$ inches during the five months. We notice complaints from all quarters of New England, of the long and severe drought.

The continued dry weather has not been favorable to the growth of weeds; but with the present liberal showers, they will soon make a fresh and

very rapid growth, and they must be looked after immediately. It is a bad plan to neglect the garden in the fall, as is too often the case, and allow the overgrown weeds to sow a full crop of seeds for another year.

GRAPE VINES will now be at rest, and need but little attention: keep down the new growth of laterals, and air liberally; in all good weather, to ripen the wood. Vines in cold houses will now require considerable care in order to get high-flavored fruit: dispense with watering, as the grapes attain to maturity, and give an abundance of air. Vines in the open ground will only need to have their new wood properly nailed in, and the laterals stopped.

STRAWBERRY BEDS may be made now, after the fine rains, with the best success. Prepare the ground properly, as we have already advised, and immediately set out the plants.

PEACH TREES should be budded this month.

CHERRY AND PLUM TREES, budded in July or August, will need looking after, as the ties often girdle the trees.

SUMMER PRUNING should still be kept up, by checking the second growth, where they have started from shoots nipped off in July. Tie up the branches of trees overloaded, or, what is better, gather the fruit, much of which will ripen well in the house, and thus benefit that which is left.

CURRANT BUSHES may be safely transplanted the last of the month.

FLOWER DEPARTMENT.

As cooler and frosty nights will soon be along, much attention will be required this month to prepare most of the collection for the winter. Great numbers of showy plants, bedded out, must be taken up and potted; and as this is done with much greater benefit to the plants in a frame, it is well enough to have a small hotbed made, to keep them close for a few days after being potted. Scarlet geraniums, heliotropes, lantanas, and similar things, will make far better looking plants with this little extra care.

Heaths, camellias, daphnes, and, indeed, all hard-wooded plants which have been kept in a constant shade, will ripen their wood better if removed, for the time before taking them in, to a sunny spot. Soft-wooded plants, such as heliotropes, petunias, justicias, linums, &c., should be hardened off in this way, or they will be long and lean specimens all winter.

CAMELLIAS will require to be taken into their winter quarters about the 25th of the month, and previously they should all be syringed thoroughly, the pots washed, and the plants neatly staked up. Continue to give good supplies of water, with frequent syringings. Cuttings may be put in now, and grafting still performed. Fresh seeds may also be planted.

CHRYSANTHEMUMS will now require to have a vigorous root action kept up, or else imperfect buds will be formed. Water occasionally with guano, or liquid manure, and syringe frequently over the foliage. Stake up every plant. They must all be taken into the house, or sheltered from a temperature much below freezing: a light frost will not hurt them, but a heavy one is apt to destroy the beauty of the bloom.

PELARGONIUMS. The old plants should now be repotted: shake off as much as possible of the old ball, and repot in good light turfy compost.

Place in a frame for a few days, until the new roots begin to push. Cuttings should be potted and placed in a half shady shelf in the greenhouse, or in a frame.

OXALIS BOWEN and other kinds may be repotted now.

ACHIMENSES and *GLOXINIAS*, done blooming, may be removed to a dry shelf under the stage.

VERBENAS may be layered now for a winter stock of plants; cuttings may also be put in.

AZALEAS should be rather more sparingly watered, and should be removed to the house or a frame early, as they do not like the cold damp nights of autumn.

SCRIZANTHUSES, sown last month, should be potted off now.

CINERARIAS, both propagated and seedling plants, should be repotted now.

PANSIES may be propagated this month by pipings, or by division of the roots; seeds may be sown in boxes, in a frame, for a stock to pot off in the spring.

ROSES, bedded out in the open ground, may be taken up and potted this month: shade in a frame for a few days, and partially prune in the branches.

GREENHOUSE PLANTS, of all kinds, set out in the open ground to make a good summer growth, should be taken up this month and potted.

PETUNIAS should be layered so as to have a good supply of them for spring stock.

NEAPOLITAN VIOLETS should be set out in frames this month; and such as are wanted in pots, should be lifted and potted.

FLOWER GARDEN AND SHRUBBERY.

After the refreshing rains, the flower garden will put on a new, gay, and cheerful appearance. Keep everything neat and in good order. Continue to mow edgings and lawns, and rake, roll, and preserve a hard surface on all the walks. Now is a good time to look over and fill up any gaps among the perennials, which may have been occasioned by loss from the dry weather or other causes. Gather seed of choice balsams, asters, &c.

HOLLYHOCKS may be propagated by division of the roots. Young seedlings should be set out in beds where they are to bloom.

DAHLIAS, wanted for show flowers, should be mulched and liberally watered: prune off superfluous wood, and tie up as often as the shoots require it.

CARNATIONS, layered last month, may be taken up and potted or planted in beds, where they can be protected during winter.

GLADIOLUS, *TIGER FLOWERS*, *AMARYLLIS*, &c., should be taken up before severe frosts.

PANSY SEED may be sown now in beds, in the open ground, for early blooming in spring.

LILIUM CANADENSIS, and other early flowering lilies, may be taken up and reset this month.

HERBACEOUS PEONIES may be transplanted this month.

PERENNIAL PLANTS, of all kinds, may be taken up and reset the last of the month, or in the early part of October.

THE MAGAZINE OF HORTICULTURE.

OCTOBER, 1852.

ORIGINAL COMMUNICATIONS.

ART. I. *Descriptions and Engravings of Select Varieties of Pears.* By the EDITOR.

WE continue our descriptions of pears from our current volume, (page 158,) and present our pomological readers with engravings of three new kinds of considerable merit, viz., the Beurré Giffart, Belle Julie, and Rondelet. The first of these has fruited for two or three seasons in various collections, and has proved a superior early pear; the others we have only seen from our own collection, but they fully sustain the high reputation they have acquired abroad.

145. BEURRE' GIFFART.

The Beurré Giffart (*fig. 30*) is one of the many French or Belgian seedlings which have recently been produced. We have already given some account of it in our Pomological Gossip, and it has been rather widely disseminated for so new a variety. It fills up the season of our summer pears—when there is not an over-abundance of the first quality—just after the Doyenné d'Ete and Madeleine are gone. It fully equals in size the latter, and has nearly all the beauty of the former, combining the merits of each. Like all our summer varieties, it should be gathered before it becomes too ripe upon the tree; otherwise it is apt to lose its very melting quality and sprightly juice.

The tree is only a moderate grower, makes rather long slender shoots, and has a dark reddish wood: foliage rather small. It is, however, a good bearer, and succeeds both upon the quince and pear.

Size, medium, about two and a half inches long, and two in diameter; *Form*, pyramidal, full at the crown, tapering to the stem, with a somewhat elongated neck; *Skin*, fair, smooth, yellowish green, becoming pale yellow when mature, somewhat striped and mottled with brilliant red on the sunny

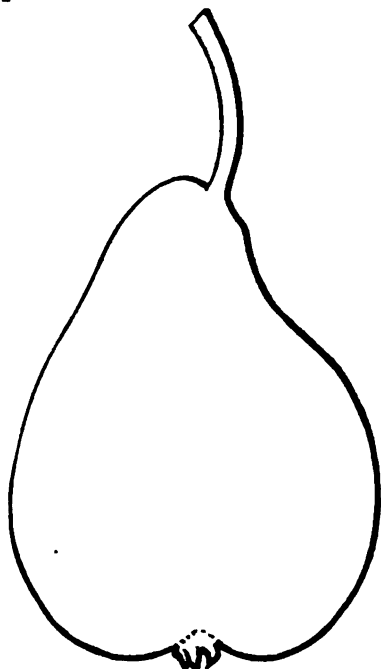


Fig. 30. Barré Giffart.

side, and dotted with pale russet specks; *Stem*, long, about one and a half inches in length, slender, curved, and obliquely attached to the fruit by a swollen and fleshy junction; *Eye*, medium size, open, and very slightly depressed in a small basin; segments of the calyx, short, stiff, projecting; *Flesh*, white, fine, melting and very juicy; *Flavor*, rich, vinous and refreshing, with a spicy aroma; *Core*, small; *Seeds*, obovate. Ripe the last of August.

146. BELLE JULIE.

This fine pear (*fig. 31*) has fruited here for the first time the present year. Our drawing and description are made from specimens received from our correspondent, A. Leroy, last autumn; but as they correspond exactly with the specimens upon our trees, we anticipate its period of maturity in November, by adding them here. It is a very fine late autumn pear.

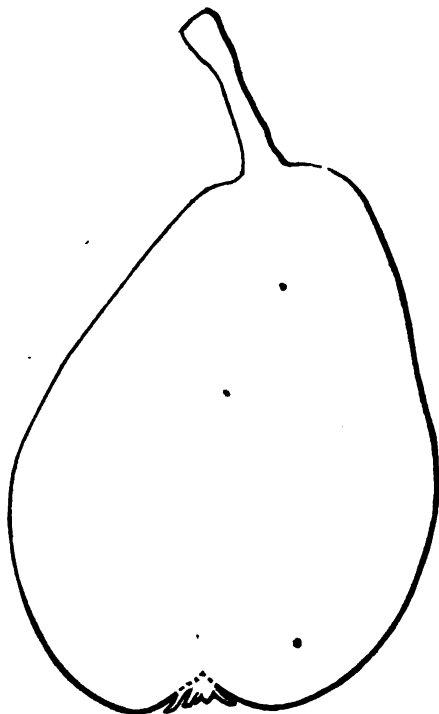


Fig. 31. Belle Julie.

The tree is an upright grower, and appears to do well on the quince. It is stated in the Belgian catalogues to be one of Van Mons's seedlings, brought to notice since his death.

Size, medium, about three inches long, and two and a half in diameter; *Form*, ovate, largest in the middle, rounding off to each end; *Skin*, rather rough, yellowish green,

nearly covered with pale cinnamon russet, somewhat hoarded with red on the sunny side: *Stem*, rather short, less more than half an inch long, stout and obliquely inserted on the oblique end, without any cavity: *Eye*, medium size, open, and slightly depressed in a shallow basin; segments of the calyx, medium length, reflexed: *Flesh*, greenish white, melting and juicy; *Flavor*, rich, vinous and sprightly, with a fine aroma; *Core*, medium size; *Seeds*, very long and sharply pointed. Ripe in October and November.

147. *RONDELET. Hort. Soc. Cat., 3d Ed., 1842.*

Among the many large and fine varieties of pears which have so recently been added to our collections, the smaller and less showy ones, though equally meritorious, seem to attract but little attention; even the delicious Seckel is sparingly planted on account of its inferior appearance, and such sorts as the Bartlett, Swan's Orange, Doyenné Boussock, are duplicated in preference to an extended list of smaller kinds. That such should be the case when the object is to produce fruit for the market, was naturally to be expected; but that the amateur cultivator should dispense with some of the most luscious sorts, because of small size, is more surprising. Undoubtedly, after the passion for large sorts is somewhat satiated, the smaller ones will find their place in the gardens of all who appreciate the finer fruits.

Among this class of pears the Rondelet (*fig. 32*) holds a high rank, deserving to be placed with the Seckel. Its form is peculiar, being remarkably oblate, resembling the Summer Rose, but even flatter than that variety. The tree is an upright and thrifty grower, and bears abundantly. Of its success upon the quince we have no experience.

Size, medium, about two and a half inches in diameter, and two inches deep; *Form*, oblate, with a slightly uneven surface, much flattened at each end; *Skin*, fair, smooth, green, becoming deep yellow when mature, faintly tinged with blush on the sunny side, and thickly dotted with russet, intermixed with a few greenish specks; *Stem*, medium length, about one inch long, slender, and inserted in a rather

deep contracted cavity; *Eye*, medium size, partially closed, and very slightly sunk in a small basin; segments of the calyx, long, slender, projecting, stiff; *Flesh*, yellowish white,

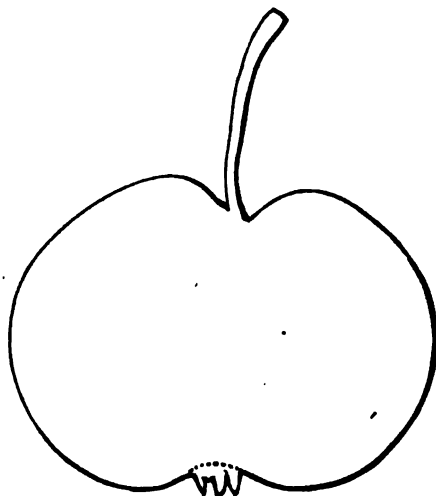


Fig. 32. Rondelet.

fine, half melting, buttery and juicy; *Flavor*, rich, sugary and sprightly, with a luscious aroma; *Core*, medium size; *Seeds*, small, roundish ovate. Ripe in October.

148. **EMERALD.** *Hort. Soc. Cat.*, 3d Ed.

The Emerald (*fig. 33*) is, we believe, a Flemish pear. It resembles, as Mr. Thompson has stated in the *Catalogue* above quoted, somewhat the Glout Morceau, having the same green skin and uneven surface; it also approaches it in quality. Our own trees have not yet fruited, and our description is made from specimens received from Mr. Manning, of Salem. It is an excellent late autumn pear.

Size, large, about three inches long, and two and a half in diameter; *Form*, obtuse pyramidal, irregular, with an uneven surface, little resembling a Glout Morceau, largest about the middle, and ridged or furrowed around the crown; *Skin*, fair, smooth, pale yellowish green at maturity, and dotted with large russet specks, thickest around the eye; *Stem*, medium

length, about one inch long, rather stout, curved and obliquely inserted, without scarcely any cavity; *Eye*, medium size, partially closed, and moderately sunk in an uneven furrowed basin, surrounded by prominent ridges; segments of the

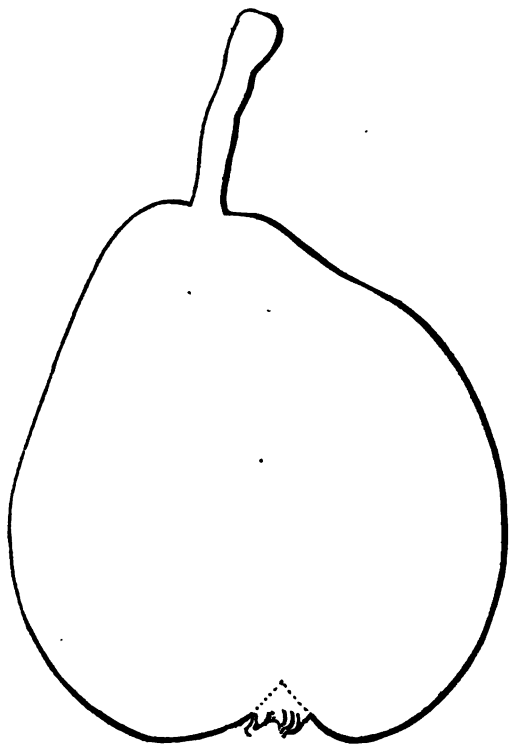


Fig. 33. Emerald.

calyx, short, incurved; *Flesh*, white, coarse, melting and juicy; *Flavor*, sprightly, subacid, brisk, vinous, perfumed and good; *Core*, large, little gritty; *Seeds*, medium size, plump. Ripe in November.

149. **PRINCESS ROYAL**, (Groom's.) *Hort. Soc. Cat.*, 3d Ed.

The Princess Royal (*fig. 34*) is a chance seedling, raised by Mr. Groom, the celebrated Tulip fancier, near London. Mr. Thompson describes it in the *Hort. Soc. Catalogue* for 1842, as first quality, but as the tree has proved to be a rather

tardy bearer, it did not fruit in American collections till last year, when some fine specimens were produced by the Hon. J. S Cabot, President of the Massachusetts Horticultural Society. It appears to be a very hardy and vigorous tree, retaining its thriving habit, and making short wiry wood. This year we notice our tree has a few fruits scattered over it, but rather sparsely. In general habit it is extremely similar to the Dix, with this exception, that it is not so regular in its habit. From specimens given us by Mr. Cabot

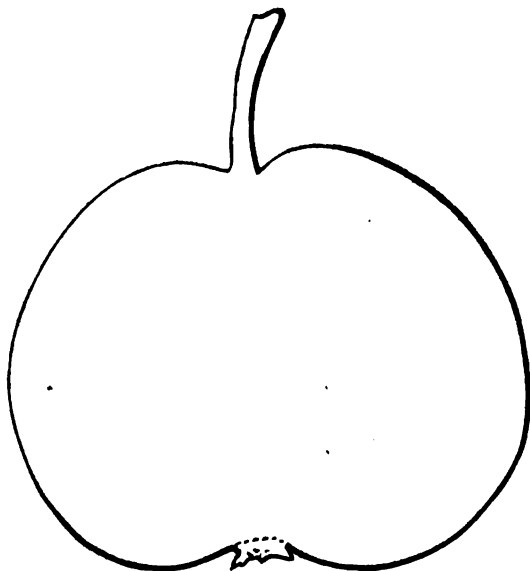


Fig. 34. *Princess Royal.*

last year, we consider it a variety of good promise, and we trust it will become a popular winter pear.

Size, large, about three inches in diameter, and two and a half deep; *Form*, roundish, bergamot-shaped, large at the crown, rounding off a little towards the stem; *Skin*, fair, smooth, dull pale green, dotted with a few russet specks; *Stem*, medium length, about half an inch long, moderately stout, and inserted in a very small shallow cavity; *Eye*, medium size, open, and little depressed in a broad shallow cavity; segments of the calyx, short, connected; *Flesh*,

yellowish, little coarse, melting and juicy ; *Flavor*, sprightly, vinous, perfumed and good ; *Core*, large and slightly gritty ; *Seeds*, medium size, short and full. Ripe in January and February.

150. *CALEBASSE D'ETE.*

Since the death of Van Mons, no name has been more prominent among the growers of seedling pears than that of the late Major Esperin, of Bavay. Some fifteen or twenty kinds, of high reputation, have been introduced into the Belgian catalogues, which are said to have been raised by him ; most of them, according to Mr. Rivers, who has frequently visited his collection, being chance seedlings. Whether they will sustain the rank to which they have been elevated remains to be seen ; but if all of them are equal to the Calabasse d'Ete, it is sufficient to say they have not been overrated. It should be remarked, however, that some of them have proved synonymous with older kinds, while others are quite distinct and new.

It is unnecessary to recapitulate, now, the kinds he has produced, as we shall soon describe and figure all that are worth cultivating. The Calabasse d'Ete (*fig. 35*) is the first which we have yet found to be among our best pears, and its excellence will induce us to give them all a fair trial before deciding upon their merits.

This fine pear is of large size, calabash formed, somewhat of the shape of the Long Green, (not the autumn variety,) but is more irregular in its outline. The tree is a remarkably vigorous grower, with a large light green foliage, and the pears are borne in clusters of three or more. It ripens just before the Bartlett, and has the excellent quality of keeping a long time without rotting at the core. We have not tried it upon the quince.

Size, large, about three and a half inches long, and two inches in diameter ; *Form*, oblong pyramidal, often irregular or curved, large at the crown, which is sometimes oblique or flattened, and tapering into the stem, with a contraction about

the middle ; *Skin*, slightly rough, dull green, little browned on the sunny side, and considerably russeted around the stem and about the eye ; *Stem*, long, about one and a quarter inches in length, stout, curved, and obliquely attached to the fruit by a fleshy and wrinkled base. *Eye*, small, open, and

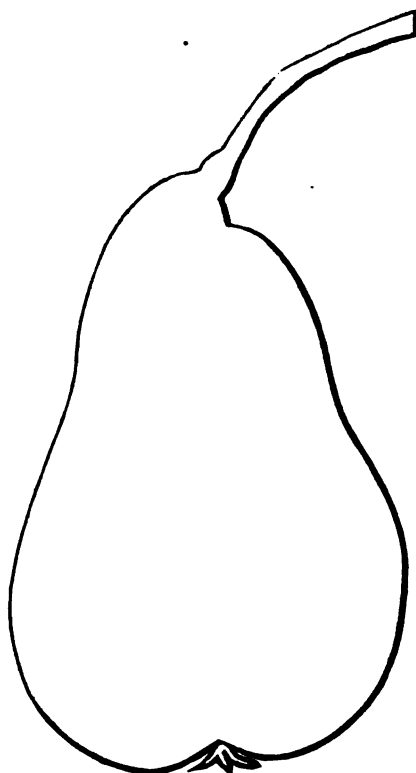


Fig. 35. Calebasse d'Ete.

set nearly even with the surface of the crown ; segments of the calyx, short, stiff, connected, diverging ; *Flesh*, white, fine, buttery, melting and juicy ; *Flavor*, rich, sugary, slightly perfumed and delicious ; *Core*, small ; *Seeds*, medium size, long, slender, dark. Ripe the last of August and beginning of September.

ART. II. *The effects of Light on the Germination of Seeds, &c., when passed through media of various colors.* By R. B. L.

(Continued from page 400.)

When we look on a spectrum which has been subjected to the influence of some absorptive medium, we must not conclude from the colored rays which we see, that we have cut off all other influences than those that belong to those particular colors. Although a blue glass or fluid may appear to absorb all the rays except the most refrangible ones, which have usually been considered as the least calorific of the solar rays, yet it is certain that some principle has permeated the glass or fluid, which has a very decided and thermic influence; and so with regard to media of other colors.

“As we have previously remarked that the relative temperatures indicated by good thermometers, placed behind the fluid cells and glasses, will place this in a clearer light, the following tabular view of a series of results may be said to mark distinctly the relative degrees in which these media are permeable by the heating rays:—

GLASSES.

Color.	Rays not absorbed.	Temperature.
1. Ruby.	Ordinary red and extreme red.	87°
2. Red.	Ordinary red, orange.	83
3. Orange.	Blue, green, yellow, orange red, and extreme red.	104
4. Yellow.	Red, orange, green and blue.	88
5. Blue.	Violet, indigo, blue, green and some red.	94
6. Green.	Orange yellow, green and blue.	74

FLUIDS.

A. Red.	Ordinary and extreme red.	78
B. Yellow.	Ordinary red and yellow.	80
C. Green.	Blue, green, yellow, orange.	69
D. Blue.	Green, blue, indigo, violet and trace of red.	73
E. White.	All the rays.	89

Here we see that, contrary to what we might have supposed at first, the highest temperature is not obtained behind the red media, but behind those which have a yellow or orange tint. Indeed, a higher temperature is obtained behind the colorless fluid than any of the others; and when we consider that the thermic influence is not confined to the red spaces of spectrum, but that it extends over all the visible rays, and to a great extent below them, we see that a larger quantity of radiant caloric must permeate the least colored media. Red glasses and fluids absorb a larger quantity of the heat rays than any other except black ones, and consequently indicate a higher temperature themselves, although a lower one is observed behind them.

With these arrangements it was distinctly proved that, under the influence of the luminous and calorific rays, *germination was entirely prevented in many cases*; and in *all*, the growth of the young plant was checked, and the development of leaves and buds prevented. The following results have been obtained with carefully selected roots of tulips and ranunculuses:—

The first appearance of germination took place with the tulips under the orange glass, (No. 3, of the prepared glasses,) which was followed, in three days, by those under the red glass, (2,) then by those under the ruby glass, (1,) and next by those under the influence of the yellow glass, (4,) and next under the blue glass, (5,) and then under the green glass, (6.) The roots under the orange glass developed the cotyledons a week earlier than those under the yellow, blue and green glasses. But that the ranunculuses observed the same relative order in germinating, I should have suspected that some peculiarity in the bulbs had influenced the result, although these had been selected with the most scrupulous care. At first, the greatest progress was made by the tulips under the yellow glass and orange glass, but the leaves under each of these were by no means healthy, particularly under the yellow glass, which had a singularly delicate appearance, being of a very light green, and covered with a most delicate white bloom.

444 *The effects of Light on the Germination of Seeds.*

The leaf stalks of the tulips shot up remarkably long, and were in both cases white. At length an exceedingly small flower bud appeared on the plant under the orange glass, which perished almost as soon as it appeared, and the death of the plant almost immediately followed.

The tulips under the yellow glass never showed any buds, and their vitality soon failed them. The condition of the ranunculuses, under the same influence, was in most respects similar to that of the tulips. They exhibited the same exuberant length of stalk, but the leaves were of a more healthful appearance. These plants, however, never showed any flower buds, and they died nearly about the same time with the tulips.

It may be proper to mention that the pots in which these roots were planted, were filled with a mixture of fine earth, sand and well rolled manure, from a hotbed. A few days after the exposure, those under the yellow and orange glasses threw up several fungi, and continued for several days to do so, which was not the case with any of the others.

The above result would indicate some peculiar property possessed by the orange and yellow colored glasses, which is probably owing to the most of the refrangible rays being cut off.

Under the ruby and red glasses, the tulips shot up a single lobe, which maintained a little life for three or four weeks, but never rose more than two inches above the soil. There was a marked redness upon this stunted formation, which is, no doubt, characteristic of the kind of medium under which they were placed. The tuberous roots perished in the soil: sufficient moisture and warmth had called into action the latent principle of germination, but, being unable to maintain it against the destructive influence of the light, they rotted. This result exhibits a most wonderful influence exercised by the colored medium through which the light passed.

Beneath the green glass all the plants grew slowly, but tolerably strong. They were, however, marked by a more extraordinary length of stem than those already mentioned. Some of the stems of the ranunculuses, under this glass,

being about ten inches in length, having a small leaf at the extremity not more than two thirds of an inch diameter. These plants all showed flower buds, but none of them could be made to flower, notwithstanding that the greatest care and attention was bestowed upon them; the effort to throw up the buds appeared to exhaust their powers, and the whole of the plants soon died.

The results under the blue glass were very different. The roots germinated a little less quickly than they did in the open ground, forming compact, healthy plants, developing their flower buds strongly and flowering in perfection.

From the foregoing experiments, it will be easily perceived that the medium which insulates the chemical rays most perfectly, is the one under which the process of vegetation has been most perfectly conducted and sustained; and, as will be shown in continuation, under the blue glass alone has vegetation gone on healthful to the end."

Roxbury, September 16th, 1852.

(To be continued.)

ART. III. *Pomological Gossip.*

PEARS THAT SUCCEED ON THE QUINCE.—At the recent State Fair of the New York Horticultural Society, held at Utica, on the 7th, 8th, 9th and 10th of September, there was quite an assemblage of cultivators from different parts of the country, many of them from the west, on their way to the Pomological Convention, at Philadelphia. Among them we noticed Dr. J. A. Warder, of Cincinnati; L. Young, of Louisville, Ky.; F. R. Elliott, Cleveland, O.; E. Redmond, Augusta, Ga.; J. J. Thomas and P. Barry, Rochester; W. R. Prince, Flushing; Prof. Coppock, Buffalo; Dr. Thompson, Aurora. With such an assemblage, it was decided to hold a "talk" during the evenings of the fair, when subjects interesting to the horticulturist or pomologist might be discussed, and information elicited.

The first meeting, on Tuesday evening, was held at Baggs' Hotel, Prof. Coppock in the chair, and Dr. Warder secretary.

The chairman called for the opinion of gentlemen respecting the best winter pear, and what they would consider the finest and most desirable ones, so far as fully proved. Some discussion took place between Messrs. Barry and C. M. Hovey, relative to the merits of the Winter Nelis, which Mr. Barry did not rank near so high as several others. The majority of those present, however, agreed that it was a most valuable variety. After hearing the opinions of the meeting, it was voted that the Glout Morceau, Lawrence, Le Curé, Winter Nelis and d'Aremberg, were the five best sorts for general cultivation.

The best early pear was decided to be the true Doyenné d'Ete; not the Julienne or Summer Doyenné, as some call it, but the Doyenné d'Ete, of Nantes, as figured in our *Fruits of America*: the second best was the Madeleine.

Various other fruits were discussed, but no decision taken respecting them.

Wednesday Evening.—By the polite invitation of Wm. Tracy, Esq.,—who has a beautiful garden filled with fine fruit, to the culture of which he is greatly devoted,—the meeting assembled at his mansion, on Genesee Street.

Mr. J. J. Thomas proposed the subject of the peach culture, viz., the hardiness of seedlings raised direct from the kernel as compared with budded trees. It has been contended by some western and southern writers on the cultivation of the peach, that the only mode to grow this fruit successfully was to raise the trees direct from the kernel, without the aid of budding. On this opinion Mr. Thomas wished to know the sense of the meeting. The subject was well discussed by Messrs. Tracy, Thomas, Barry, Hovey, Elliott, and others, and the result was that the meeting disagreed with the views of those who had advanced such an opinion respecting the culture of the peach. It appeared from the experience of several of the speakers, that budded trees are just as hardy as seedling trees, and in some cases hardier.

The next subject was the culture of the pear on the quince

stock, and the chairman called for a list of those kinds which have proved, after several years' trial, to be vigorous and productive; but as no one appeared to be prepared to give such a list, the question was then so modified as to require each cultivator to name one or two varieties which he had found under his practice to succeed well. Some discussion ensued upon this and collateral matters, but the following list was made up:—

Beurré Diel,	Glout Morceau,
Beurré Easter,	Henry IV,
Beurré d'Amanlis,	Long Green of Autumn,
Beurré d'Anjou,	Long Green, striped,
Bergamotte Cadette,	Le Curé,
Beurré Gris d'Hiver Nouveau,	Louise Bonne of Jersey,
Catillac,	Madeleine,
Capiaumont,	Napoleon,
Doyenné, white,	Passe Colmar,
Doyenné, gray,	Stevens's Genesee,
Doyenné Boussock,	Summer Francreal,
Doyenné d'Hiver Nouveau,	Urbaniste,
Duchess of Angouleme,	Uvedale's St. Germain.

This may be considered a sure list, as it is certainly the result of the combined experience of the principal as well as the oldest nurserymen in the country. By adding to it as our knowledge accumulates, we shall, in a few years, have a complete list of all that grow finely upon the quince.

The thanks of the gentlemen present were tendered to their hospitable host, Mr. Tracy, for his kindness in throwing open his house, and the meeting adjourned.

NEW STRAWBERRIES.—Our correspondent, Wm. R. Prince, Esq., of Flushing, L. I., who has recently produced quite a number of seedlings, and among them one or two which he thinks will surpass Hovey's Seedling, writes as follows:—

"C. M. Hovey, Esq.: Dear Sir,—I noticed your remarks in the May number of your Magazine in regard to my collection of strawberries, and I had hoped that you would inspect them personally, when in fruit, as a great many amateurs did,

including our friend Mr. Longworth, of Cincinnati. I have, for many years, as you are aware, paid especial attention to the acquisition of every valuable variety from distant regions, and to the rearing of seedling strawberries from the choicest varieties, thus concentrated. One great object avowed by amateurs has been to surpass "Hovey's Seedling" and the "Boston Pine," which were originated by yourself, and I have each succeeding year been convinced that this was no easy task, although many have deemed it one of ready accomplishment. The production of those two splendid varieties, at so early a period of amateur strawberry culture, was a most astonishing circumstance, and although I readily concede to you the merit of science and zeal in that labor, I am also satisfied that you owe much to "good luck" for so propitious a result. Immediately after your reference to my collection of strawberries, you insert a notice of the "Moyamensing Pine," and you quote the remarks of "a cultivator in New Jersey," who states it to be "superior in every feature (except size) to Hovey's Seedling, which was its parent." To begin with the last remark, the Moyamensing Pine could never have been grown from a seed of the Hovey's Seedling, as the entire growth and the fruit of the plant show it to be a seedling of the Hudson, and it has not one characteristic in common with the former. It is a vigorous plant, the fruit of a fine crimson color, on strong stems, secondary in size, of conical form, juicy, not sweet, and deficient in flavor. It is very productive, and when all points are considered, may be deemed *rather valuable*, and of the same rank as the old Hudson, which has some quite valuable properties, although much slighted.

It is those varieties which combine size, beauty of color, fine flavor and productiveness, that must now command precedence; and I will on a future occasion describe such as I have found to possess these points of excellence; but at present I will name only the "Le Baron" and "Triumph" as highly estimable varieties. Yours, very respectfully, Wm. R. PRINCE. *August 28, '52.*"

We fully agree with Mr. Prince in his closing observations, and have already anticipated them in our last, in our remarks upon Burr's New Pine; but it is a source of gratification to find that we are supported by such good authority. It is, in truth, only those strawberries "which combine size, beauty of color, fine flavor and productiveness, that must now command precedence." We regret that we could not find the leisure to visit Mr. Prince's collection, but we shall assuredly do so when his latest and newest seedlings, which are to surpass our own, come into bearing.

TWENTY-FOURTH ANNUAL EXHIBITION OF THE MASSACHUSETTS HORTICULTURAL SOCIETY.—The exhibition of this Society the present season, a full account of which will be found in another page, was one of the most magnificent ever witnessed. Especially in the fruit department was it unusually attractive. A more favorable season has rarely been experienced, and the specimens were not only brought forward in profusion, but of a quality surpassing any previous year. Pears which heretofore have been classed among the small kinds, were seen of such a size as to give them a place among the largest sorts. Indeed, the experience of the season has been such as to give renewed assurance to the cultivators of our vicinity, that a favorable season and proper attention will enable them to grow the pear to as great perfection as they are capable of being produced in this country.

The following is a list of the varieties which made up the prize stands at the exhibition just closed:—

From W. R. Austin, Le Curé, White Doyenné, Easter Beurré, Passe Colmar, Urbaniste, Bezi de la Motte, Beurré Diel, Duchess of Angouleme, Bartlett, Beurré d'Anjou, Louise Bonne of Jersey, and Van Mons Leon le Clerc.

From Jos. Stickney, Easter Beurré, Urbaniste, Flemish Beauty, Louise Bonne of Jersey, Le Curé, Marie Louise, Duchess of Angouleme, Winter Nelis, Glout Morceau, Dix, Lawrence, Beurré Langelier.

From S. Downer, Jr., Bartlett, Easter Beurré, Urbaniste, Chaumontelle, Duchess of Angouleme, Louise Bonne of Jer-

sey, Andrews, Beurré d'Anjou, Van Mons Leon le Clerc, Colmar d'Aremberg, Gansell's Bergamot, Bezi de la Motte.

From Hovey & Co., Flemish Beauty, Swan's Orange, Doyenné Boussock, Marie Louise, Chaumontelle, Bartlett, Beurré Bosc; Louise Bonne of Jersey, Columbia, Van Mons Leon le Clerc, Duchess of Angouleme and Beurré d'Anjou.

GREAT CROP OF STRAWBERRIES.—We have so often chronicled accounts of the immense crops which have been produced from beds of our Seedling that we scarcely deem it important to do so again; but our friend Mr. C. Whiting, of Boston, has just handed us the following, which is so very remarkable that we make no further apology for giving it to our readers:—

“Mr. William Gore, of Freeport, Ma., raised on a piece of land eleven feet by forty-three, the past season, *three and a quarter bushels* of Hovey's Seedling strawberries. The bed was six years old. The land on which these berries were raised, when purchased by Mr. Gore, a few years since, was considered almost worthless; it bore weeds of an inferior growth; but under his peculiar care and cultivation it has become very productive; it was moist, dark sandy loam. He dug deep ditches and filled with cobble stones, which were covered with seaweed, then a top dressing of such earth as he could obtain, with manure well incorporated by deep ploughing. His garden vegetables and fruits show what may be done by a little care and attention. A few summer potatoes reached our Faneuil Hall Market the past season, raised by Mr. Gore, which were equal to any ever brought here during winter. He has filled his ground with choice fruit, and has lately purchased twelve acres adjoining, though now in a very unproductive state.”

This is at the rate of NINE THOUSAND SIX HUNDRED QUARTS TO THE ACRE, or about one quart from every four and a half square feet of soil. A greater yield than this on so large a piece of ground we think was never made; and this too on a bed *six years old*. If any one can beat it we should be glad to record the name of the successful cultivator.

ART. IV. *The Hardy Azalea, its Varieties and Cultivation.*
From the London Horticultural Magazine.

THE hardy azalea and its varieties are among the most splendid shrubs which enrich and beautify our gardens. Perfectly hardy, of ready growth, flowering profusely at a period of the year when there is a scanty display of flowers, and combining all the varied tints of pink, rose, salmon, orange, buff and yellow, they are eminently deserving of the first choice of every amateur.

In our collection we have upwards of sixty kinds, some of them blooming early, others later, and others later still, covering a period of six weeks, and of all the tints we have enumerated. Still newer and more magnificent seedlings have been recently produced, embracing more novel colors, and greater variety; but even the oldest kinds are sufficiently beautiful to be placed in the front rank of ornamental shrubs.

To bring this class of shrubs into more immediate notice has been our object for a long time, and we have often endeavored to impress upon every admirer of elegant plants the high claims of the hardy azalea. A collection has to be seen but once to enchant every beholder; yet, as there are but few opportunities to do this, owing to the neglect of our amateurs as well as nurserymen to add them to their collections, we can only urge upon all who never have had the gratification of seeing the finer sorts in bloom, their superior charms.

We have a descriptive list of upwards of fifty varieties, which we shall publish in our next volume, with some further remarks on their growth. In the mean time, we would call the attention of all who are desirous of adding them to their collection to the following excellent article, detailing the entire routine of treatment. ED. :—

It is a curious fact, that in ground which suits this hardy American plant, the seedlings may be seen coming up from the seeds scattered by the plants in such quantities as to be

like so many weeds, while in ordinary soil it is not only a rare thing to see one, but it is difficult to get them up even when sown. The natural situation for this family seems to have been the ordinary reclaimed or dried bogs, where the earth is one close mass of half-decayed vegetables and their roots; and if one could judge from the plan of culture which succeeds best, we should be inclined to fancy that the roots had not far to go for actual water; for certain it is, that when it is making its growth it does require a good deal of moisture. The peat earth of our commons, such as the whole family of erica are grown in, agrees with the azalea well; and in every place where we have observed the plant really flourishing, it has been in a natural turfy peat, or ground made up of that peculiar soil.

The azalea is a deciduous plant, which may be called hard-wooded, for all the shoots of the summer in a healthy plant ripen into wood as hard as that of a gooseberry or currant tree, and bloom buds set at the end of every branch. The hardest of our ordinary frosts takes no effect upon the incipient flowers, though seemingly so much exposed all the winter.

The species of azalea from America were always in great repute; but seedlings raised from these have far excelled the originals in beauty and variety. The Belgian nurserymen have produced some of the best of these improved ones. The great fault of the originals, or, at least, many of them, was, that the flowers were small, the divisions of their corollas narrow, and therefore there was a comparative meanness in their general appearance. Some of the improved varieties have very large flowers, with broad segments, and are altogether as imposing as the others were mean and commonplace. There appears to be a family link between the purple rhododendron and the yellow azalea; for the late Dean of Manchester and others have succeeded in breeding complete crosses or hybrid varieties, by impregnating the rhododendron with the yellow azalea; and, although it appeared a most extraordinary fact, Mr. Smith, of Norbiton, produced the yellow color on a perfect evergreen rhododendron, which at

once proved that the cross was complete. Notwithstanding this, there appears hardly one striking similitude in the two plants, except their being of the same class and order. The rhododendron is a perfect evergreen, the azalea is deciduous; the bloom of the rhododendron comes in a short spike or cone, the azalea presents no such form. However, that it is of the same family cannot be doubted; for not only do they breed together, but the produce, namely, a yellow rhododendron, seeds freely, so that the popular notion of its being a mule, and therefore not yielding seed, is exploded altogether. That they flourish in the same soil and situation is certain; and that, when once planted and growing, they do well under the same treatment, is equally true: therefore, the same means that will serve to raise the one will do to grow the other.

The varieties of hardy azalea which are cultivated in gardens, have chiefly, though not exclusively, sprung from three species introduced from North America, namely, *Azalea pontica*, *nudiflora*, and *viscosa*; the former of which is by some botanists called *Rhododendron flavum*, the next *R. nudiflorum*, and the latter *R. viscosum*. Botanically speaking, those who place these plants in the genus rhododendron are probably correct, as the differences between the rhododendrons and azaleas are too slight for generic distinction.

The *Azalea pontica* (*R. flavum*) is a large yellow-flowered kind, blooming in May and June; it has given rise to a numerous progeny of varieties, of almost all shades of coloring, from yellow to orange, and white, and striped.

The *Azalea nudiflora* (*R. nudiflorum*) is smaller than the last, and much more various in its sportive qualities; the varieties which flower from April to June include scarlet, pink, red, purple, white, striped, and various combinations of these and the intermediate tints.

The *Azalea viscosa* (*R. viscosum*) is a later kind, flowering in the latter end of June and in July; the blossoms are strongly fragrant, and clammy. This, too, has given rise to numerous varieties, of various colors.

Besides the varieties which have naturally sprung from these species, very many others, some of very distinct char-

acters, have been produced by hybridizing, or cross breeding, between them; and also between them and some of the evergreen rhododendrons, and also of the other species of azalea which have been introduced. These are now so numerous, and so much intermixed, that it is useless to separate them; neither, as new varieties are constantly being produced, would a list of their names, or of a selection from them, be of any material use. They should be seen when in flower, and the varieties then selected. The great American nurseries in the neighborhood of Bagshot and Woking, in Surrey, afford a rich floral treat through the blooming months; and the inhabitants of the metropolis and other parts will also have an opportunity of witnessing a magnificent display of them in the gardens of the Royal Botanic Society in the Regent's Park, where an exhibition of them, on an extensive scale, is to take place during the blooming season, namely, in May and June.

FORMING THE BEDS.

The space to be occupied by the azalea, whether in its young or matured state, must be well drained; experience has proved this over and over again, although they want plenty of moisture while blooming and growing. But drained ground is not necessarily dried ground; for the very fact of giving the water a free current instead of allowing it to be stagnant, increases the fertilizing qualities of land instead of taking anything away. The land being drained, dig out the whole space two feet deep, or at least eighteen inches. The best plan is to do this in four feet widths the whole length of the ground, leaving the natural soil eighteen inches wide between these beds or slips. These spaces are to be filled with three parts turfy peat from a common, full of the fibrous half-decomposed vegetation, broken into small pieces, and one part loam from rotted turves off a meadow. This compost is to be well mixed together, and the beds filled with it and six inches above the surface, left to settle down, as it will naturally lay light at first. The beds thus made up are to be allowed to settle down tolerably solid.

PLANTING THE AZALEA.

According to the size of the plants you must manage your distances from each other. When collections are purchased, they are generally one year old from the layers; and as we propose to give directions for raising young plants, we may as well treat these in the same way. Small plants, then, may be placed a foot apart, that is, four in a row across these beds, the outside ones being six inches from the path, and the others a foot distant from the outside ones; they will have plenty of room for a year or two to come; the rows may also be a foot from each other. These plants must be well watered in, and the earth settled about their roots. When they begin to grow in spring, unless there is plenty of rain, let the beds be liberally watered; and this must be attended to until they make all their growth and set for bloom, which they will always do from the first year, after being separated from the parent plant. When the bloom is set they may have the chance of rain, but no more watering. In this way the plants may remain until they touch each other, when they must be removed to a greater distance, by placing them two across the bed, or even three across, instead of four. Whenever these plants are removed, they ought to be taken up with all their roots about them, and without disturbing the earth that is about their fibres. The holes, therefore, for their reception, must be large enough to take in the ball of earth and all the fibres without disturbing them; and they must, after being trodden in well, be well watered, to close the earth about their roots.

When the plants are to be placed in a mixed plantation, where they are to remain, there must be spots prepared in the same way as the beds; that is to say, holes eighteen inches deep must be dug out, as large in diameter as the plant is supposed to require, namely, from two to three feet, and filled up with the compost already mentioned for the beds. Into these holes the peat soil is to be conveyed, and, besides being filled to the surface, must be watered in, to settle it down solid, so that, after planting, the soil may be above the surface in a sort of hillock. Here the plants, of the size

required, are to be planted and well trodden in, in the usual way, so that the collar of the plant shall be close to the surface of the peat soil, which must be some inches higher than the surrounding surface of other soil, to allow for sinking down, which it will after a few slight showers. The peat must be well watered, to close the earth about its roots, and here it will grow for years in health and strength, until its roots have completely filled the portion of made ground, when it will be somewhat checked in its exuberance by the nature of the soil which its fibres will then reach.

RAISING THE AZALEA BY LAYERING.

The only mode of propagating the azalea profitably is by layering. For this purpose, plants must be placed in the centre of the regularly formed beds, four feet apart, down the length of bed required according to the number. These plants should be selected with plenty of branches coming from near the ground. These branches have to be bent downwards, so that a portion may be pegged down from one to two inches below the surface. Let this be done in autumn; and as growth is the object while young, pick off all the bloom buds. You may either slightly notch or slit the branch just where it is to be pegged, or you may trust to the bending down alone to cause the roots to push out; let the head of the branch be above ground, and when all the branches round the plant (which is called the stool when thus appropriated) are pegged down, and their growing ends are as firmly held above ground, the whole may be watered, to settle the earth close about them. When their growing time comes, the branches thus pegged down all round will send forth their leaves and new branches, whether they strike root or not; but if the weather prove warm and dry, let the whole bed be watered; and this must be repeated occasionally until the growth of the branches be completed. They may then be examined by turning the soil aside carefully, and if they are well rooted, they may be cut off close to their roots; if not, they must go over another season before they are separated from the stool, or mother plant. Many layer the

azalea without cutting at all, but the slitting of the stem, that is, cutting a slice nearly half way through, and an inch or two long, promotes the rooting; whether this is by preventing the return of the sap, or by any of the other means that the writers on the subject pretend, is quite immaterial. It is one way of half cutting off the supplies from the root, and therefore inducing the half-separated branch to make an effort to supply the deficiency. The effect is the growing of roots at the place where the interruption is created.*

PROPAGATION BY EARTHING UP THE PLANT.

If a plant of azalea be put in the ground so deep as to earth up the branches two or three inches, it is found in the course of a season or two that all the branches that have been sunk, have freely rooted the whole distance they have been under ground. This has been found the case in old plantations, where, in the course of time, the earth has been raised; and an old plant of azalea is frequently found so much sunk in the ground, and so fully rooted where the base of the branches have been below, that every branch formed a plant, on pulling the old stool to pieces. It is quite certain that deep planting is injurious to all those subjects which do not strike root freely; but it is equally certain, that if others are buried to all but the tips of their branches, all the parts within a given distance of the surface will strike out fresh roots, and maintain themselves independent of the old root. The willow is of this description, as is the common laurel; so also are cabbages and cauliflowers, and all the cabbage tribe; hence that practice of earthing up so generally and beneficially practiced. The same principle no doubt governs, that operates in half cutting away the supply by notching; that is, by sinking the old root deep enough to lose the influence of the air, which is necessary to all roots, the means of supplying the branches are lessened, and the branches make the effort to make up the deficiency by forming roots of their own. It is therefore certain, that if the old plant of azalea be sunk so that the base of the branches shall be a few inches under the soil, they will emit roots, and may be

separated ; still it is not so good a method as layering, because, whatever be the length of the branch, it can be pegged down within a few inches of the top, and thus the most handsome dwarf heads will be formed, and the rooted part be close up to them.

RAISING THE AZALEA FROM SEED.

Select seed from the largest flowering kinds only, for the others are not worth the trouble. Fill wide-mouthed pots with the proper soil, shake it down solid by striking the bottom of the pots on the table or potting-bench ; level the surface, and on this sprinkle the seed thinly over, and sift through a fine sieve enough of the soil to just cover the seed well, and no more. Let this be done in March, and place the pots in the greenhouse, or in a garden frame which can be covered completely against frost ; because, in a very young state, these seedlings, or even the seed itself, after it has begun to swell, will be damaged by even a slight frost. The soil must not be permitted at any time to get quite dry, because the seed is very small, and when once it begins to swell, and to dry after it, the vital spark will have been extinguished. Water by means of the fruit syringe, or a wet brush, or, for want of anything better, let the pot stand in water a few minutes, so as to moisten the main body ; but if the soil is properly damp when the seed is sown, and an occasional moisture be given in drops so fine as not to disturb the dust-like seeds, they will in due course come up, when they must be protected from the sun by a piece of white paper, or thin cloth, as the direct rays would burn the plants up. They must be occasionally moistened, and be suffered to grow until they are large enough to handle with care, when fresh pots may be prepared, and the young plants be pricked out in them half an inch, or at most, an inch apart. They may be replaced in the frame, and, except being protected from the mid-day sun, they will require but little attention until they have made that season's growth, and dropped their leaves. While in that state of rest, they may be shifted to seed-pans, or flat boxes, at two inches distance

from each other ; or, which will be better still, cover an old melon or cucumber bed with six inches of peat earth and loam, such as the bed for azaleas is composed of, and the surface will be thus raised half way up the wood frame ; when this has been properly levelled, the little plants may be planted out three inches apart all over the surface ; and the advantage of this will be, that they can be effectually covered against frost all through the winter, and when they commence their spring growth, which will be earlier than those out of doors altogether ; and they can also be shaded, if necessary, from the mid-day sun when the season advances. Here they may have their second season's growth, and towards the autumn the glass may be taken off, and they may have all the weather, heat, wet, and whatever little cold there may be. The plants will drop their leaves ; and now, any time before Christmas, they may be removed from this bed with all the earth about their roots that they can be taken up with, and planted out in one of the regular beds, in the open air, six inches apart all over ; or, if further removal is to be avoided, they may be placed nine inches or a foot apart at once. But these plants are none the worse for an annual or biennial remove, and therefore we should plant them only six inches apart all over the bed.

It has been the common practice among even large growers to let seedlings remain in a crowded state until they exhibited their bloom, because, unless they were very good, they would not be worth naming or propagating ; but as all seedlings would be saleable as common plants when grown handsome, they should remain six inches apart only one year, or season ; they may even then be only thinned instead of removed, and so only so many taken away as would leave them a foot apart, while those removed might be planted a foot apart in other beds. Here they may grow till they bloom, when those which are superior should be carefully marked with labels and descriptions of their qualities, while those which present nothing particularly striking may be given away, or sold, as common things for common planting ; or if there be any distant borders or plantations where they can be planted

out to ornament the place for a season or two, and take their chance, be it so. At all events, remove them from the beds provided for azaleas, and with these, which may be called worthless ones, strike out every bit of peat mould hanging about their roots, for they would otherwise greatly lessen the quantity by its clinging about them. The selected ones may now be submitted to the process of layering, and be propagated for the purpose of perpetuating the new varieties so distinguished.

GENERAL REMARKS ON THE FUTURE MANAGEMENT.

The azalea is very apt to grow into an ugly form if not restrained, because a branch will every now and then take the lead so completely as to stagnate the growth of the rest of the plant. Hence we find among plantations at all neglected, the most straggling and uncouth forms imaginable; naked stems at the bottom; no bloom, except at the ends of long branches; plants grown all on one side, and every way but handsome. This can only be prevented by attention while young. If a branch shoots out more vigorously than the rest, pinch out the end at once, and stop its career. At the end of every season cut out all the pimping little shoots that grow sometimes like so much brushwood, to the injury of the plant; and after the bloom has begun to decay, and before the fresh growth is made, cut back any branch that spoils the general form of the shrub, so that the new growth may have every chance of being handsome and effective. One or two examinations while the growth is propagating, will enable you to check anything that is growing too exuberantly; and when a plant has been kept within bounds a few seasons, it may be fairly left to itself, and will not grow very wrong. It is only while young that they want control, because the branch that grows vigorously stops the growth of the other portion of the plant, and having got the lead, keeps it, to the detriment of all that was handsome, and of the general form of the plant. Nothing is more neglected than this at the great azalea nurseries. There are too many to attend to properly, and it is the most difficult thing imag-

unable to select a few handsomely-formed plants, well set for bloom, out of hundreds, and we may say thousands. We cannot too strongly urge upon the growers of this family to be liberal with water while the plants are making their growth, for unless this goes on without check, they do not perfect their growth, and, consequently, do not set for bloom.

FORMING STANDARD TREES.

In going over a piece of azaleas, mark those which have been sending forth long vigorous branches, whether upright or sideways; they will always be found straight, and generally long. Cut away every bit of the plant but this strong branch; dig up the root, and in replacing it there or elsewhere, set the roots so as to bring this long shoot exactly upright. Here you have a standard azalea at once; but as the branch will retain all its vigorous character, and be even strengthened by the removal of all the rest of the plant, it may be stopped at the height it already is, by taking off the top of the leader; or it may be encouraged to grow taller by keeping on the leader, and when it commences its growth, cutting off all other branches. Whenever the leader is stopped, the lateral shoots are encouraged; and you must promote growth where you want it, and stop it where you wish to get rid of it, until you have got the general form of the head to what you please; when, like any other subject that is all you want, it may be moved to its final destination. Here it may require a little watchfulness, because all growth below the head must be checked at once; every bud that appears must be rubbed off before it can rob the head of its proper nourishment. No branches should be permitted to spring up from the ground like suckers; in short, as the great feature of these subjects is the head, nothing must be allowed that will detract from its growth, or interfere with its beauty. In plantations of old azaleas which have been crowded, it is very easy to find many that will cut up to standards of first-rate form; and this is especially worth the notice of those who take to old gardens which they wish to modernize. Many plants, of various descriptions, neglected and grown

out of all decent form and character as shrubs, may be well cut up into standards; and nurserymen who have many subjects grown uncouth, and "out of money," as it is called when they are too big and too ugly to sell, might advantageously turn them to standards; for it is rare to find any shrub that has outgrown its beauty, but what may be easily converted to a standard of some height, either a dwarf standard, a half standard, or a whole one. This does not apply to azaleas only, but to many other shrubs not usually grown otherwise; but not the less desirable nor the less effective for being grown as trees instead of keeping to their natural habit.

ART. V. *Remarks on the Forcing of Hyacinths.*

By H. Bock.

THE varieties of the Oriental Hyacinth (*Hyacinthus orientalis*) combine in so great a degree the qualities both of beauty and fragrance, as to have become universal favorites wherever they have been introduced; and these grand requisites, combined with the ease and certainty with which they may be procured in perfection during nearly all winter and spring, until they appear in the open ground, render them indispensable for the decoration of the conservatory during the most dreary portion of the year.

If these floral gems are wanted by or before Christmas, the bulbs ought to be procured at the earliest possible opportunity, by no means later than the beginning of October, immediately potted, and set in a shady place, as under a north wall, etc., and covered from four to six inches thick with sawdust, old tan, or, best of all, sifted coal-ashes. The object to be gained by this treatment is to get the pot well filled with roots, on which all the after success depends; for if these are not obtained previous to placing the bulbs in heat, a weak, shrunk or rotten flower stalk is all that results.

The bulbs best adapted for forcing are those which are large, firm, round, and with the least appearance of offsets.

If any show the least sign of mildew, rottenness, or disease of any kind, they should be carefully rejected. In potting I prefer to leave the crown of the bulb exposed, especially the earliest, as I believe it prevents the lodgment of water about the bud, and thus lessens the chance of rotting. With regard to the compost in which to pot them, I should not be too nice, provided it were loamy, rich porous soil; as with these properties, thorough drainage, and due supply of moisture, all is secured necessary for the preliminary development of the plant. For it must be recollected that the bulb of the hyacinth, like all other bulbs and tubers, is a reservoir of food, prepared by the previous year's foliage to nourish and sustain the leaves and flowers about to be excited into action; and if, as I should recommend, all early forced bulbs are thrown away, immediately the flower decays, for the reason before alluded to. We are thus left at liberty to take every advantage of the supply of food thus previously elaborated. In order to do this, say in six weeks after being potted, those with most roots may be placed in a moderate hotbed and steadily brought forward, the supply of water being regulated by the vigor of the plants, by no means overdoing it, as too great freedom in that point would tend to the too rapid development of the leaves at the expense of the flowers. For the same reason, except where haste is absolutely necessary, I would not advise too strong a heat; all time gained by employing such means is at the expense of a great loss of color and duration in the flower.

As the flowers begin to expand, the plants may be removed to the conservatory at once, or, better, to a house of intermediate temperature, until further expanded. The increase of light and air, to which they will in either situation be exposed, will heighten their colors, but this will materially depend on the period of the season; in many instances we must wait until late in the spring e'er we can obtain the various tints in perfection, which render some of these flowers so interesting. If this moderate condition of growth can be maintained, plants will result which will need no sticking or tying; they will stand erect without those unsightly adjuncts,

and the eye of the most fastidious will be proportionably gratified.

By making a second potting in the latter end of October or in November, a good supply may be kept up until the flowers in the natural grounds are in perfection. The latest bulbs in this potting will need very little in the way of forcing, a cold pit or frame, or the greenhouse, generally being sufficient. By following these few directions, a fine bloom will be obtained, and the cultivator will be rewarded, for a comparatively small outlay of money and trouble, by the prolonged enjoyment of a plant that, taken altogether, has few superiors, at a season when fragrant flowers are most in request.

Grown in glasses, the hyacinth is a beautiful decoration to the windows of houses. To have them in perfection, only the largest and soundest bulbs should be selected. Fill the glass with soft water to within half an inch of the base of the bulbs, and add one or two small bits of charcoal, which will keep the water clear and sweet, and will do away with the necessity of changing it too often. The glasses, with the bulbs fitted too them, should then be placed in a dark closet or cellar until the plants are well rooted; for although they will bloom when fully exposed to the light in a window, still, as the roots are naturally formed beneath the surface of the earth, it is physiologically wrong to expose them to an agent so directly opposed to their nature as the strong glare of day in such a situation. Besides, it will be found that such as are in dark colored glasses always form a greater quantity of roots within a given time than those in plain transparent glasses, and consequently bloom in greater perfection. When once well supplied with roots, they may be placed in the windows of a sitting room, and all that is required is an occasional supply of water, as that in the glass gets reduced or foul.

Concluding with a list of sorts well suited for forcing, containing sufficient variety to supply the largest establishment with a continual succession of novelty in color and form as far as can be expected in the varieties of one plant.

The object principally aimed at in the following list is to combine earliness of flowering with variety in color. I would also recommend a large proportion of single varieties to be selected, as affording a greater supply of bloom, more distinctness in color, and are also better adapted for forcing, the flower stems not being so often damaged or rotten, as in the double sorts.

SINGLE RED.

L'Ami du Cœur, violet eye.	Henrietta Wilhelmina, deep pink.
Lord Wellington, salmon buff.	Hergestelter Friede, dark anthers.
Johanna Christiana, pink striped.	

DOUBLE RED.

Waterloo, deep rose.	Perruque Royal, pink striped.
Panorama, blush rose tips.	Bouquet Royal, blush rose eye.
Acteur, pink violet eye.	

SINGLE WHITE.

Grand Vainquier, strong.	Triumph Blandina, pale blush, strong.
La Candeur.	Prunk Jewel, pale blush.
Favorite Blanche, strong.	Hercules, pink striped.

DOUBLE WHITE.

Anne Marie, cream violet eye.	Pyrene, green tips.
Miss Kitty, blush violet eye, large.	Virgo, blush pink eye.
Nannette, pure white.	La Déesse, creamy, green tips.

SINGLE BLUE.

Amicus, dark blue.	Orondatus, light.
Vulcan, purple.	Baron de Tugll, dark violet.
Lord Nelson, striped.	Ou bon heur, light.

DOUBLE BLUE.

Violet fonce, violet.	La bien Aimée, dark.
A la Mode, striped, violet eye.	Dathames, dark purple.
Belle Agathié, greyish.	Passe tout, light.

SINGLE YELLOW.

Aurora, creamy buff, strong.	Madame de Pompadour, salmon.
Alvarious, straw.	

DOUBLE YELLOW.

Louis d'Or, straw color.	Ophir, greenish yellow.
Heroine, creamy.	

Dorchester, Mass., September 6, 1852.

MISCELLANEOUS INTELLIGENCE.

ART. I. *Massachusetts Horticultural Society.*

Saturday, August 14th.—Exhibited. FRUITS: From E. M. Richards, apples—Early Strawberry, Summer Rose, Williams; Christiana Melons, fine. From J. F. Allen, peaches—George 4th, superior; Summer Franc Real Pears; grapes—White Hamburg, Victoria, Portugal, and Muscat. From J. Hovey, Williams apple. From Hovey & Co., pears—Espadonne, Vermillion d'Ete, Jargonelle, (of the French,) Skinless, London Sugar, Green Chisel, Jargonelle; apples—Red Astrachan; grapes—Cannon Hall; peaches—Early Crawford, Late Crawford, Old Mixon, Morris White, and a Seedling. From M. P. Wilder, a large basket of Bloodgood pears, extra fine. From C. E. Grant, blackberries, fine. From G. Merriam, pears—Jargonelle, (of the French;) blackberries, fine. From B. Harrington, apples—Sops of Wine, Williams, River; plums and Jargonelle pears. From A. Withington, Seedling peaches, and Red Astrachan apples. From F. Burr, apples—Sops of Wine, Early Strawberry, Early Harvest, (extra fine,) Red Astrachan, (fine;) plums in variety.

From Hyde & Son, Jargonelle pears. From J. Parsons, plums—Morocco, Royal Hative; and Red Astrachan apples. From Winship & Co., pears—Epine d'Ete, Sugar Top, Beurré Giffart, Fondante d'Ete. From J. W. Foster, apples—Red Astrachan, Sops of Wine, Early Harvest. From J. Lovett, Red Astrachan apples, and Seedling apricots. From H. Vandine, plums—Early Orleans, Yellow Gage, Royal Hative, Lawrence, Royal de Tours, Mirabelle, Early Cross; pears—Bloodgood, Jargonelle, (French;) apples—Early Bough. From F. Dana, Seedling apricots. From A. D. Williams, pears—Jargonelle; apples—Williams. From E. W. Brown, apples—River, Red Astrachan, Williams. From O. Johnson, Red Astrachan apples, fine. From E. Brown, nine dishes of plums, and two of apples.

Fruits tested in Committee.—Melons, Christiana, fine; from E. M. Richards. Peaches, from Hovey & Co.; a superior Seedling. Melons, water, from Bowen Harrington; excellent. Apricots, from Mrs. S. W. Cole.

VEGETABLES.—From Azell Bowditch, Lima beans, fine. From James Hyde & Son, Snake cucumbers. From Josiah Crosby, Sweet corn, and Sieva beans.

August 21.—An adjourned meeting of the Society was held to-day,—the President in the chair.

Mr. Haggerston, chairman of the committee on flowers, sent in his resignation; and Mr. Breck was chosen to fill the vacancy.

Mr. C. M. Hovey, P. Barnes, and E. A. Story, to report what salary, if any, shall be paid to the chairman of the flower committee; and to report at a future meeting.

The corresponding secretary gave notice that a letter had been received

from Mrs. A. J. Downing, in answer to the resolutions adopted at the last meeting, and it was voted to enter it in the journal. Adjourned two weeks, to September 1.

Exhibited.—**FLOWERS:** From Jos. Breck & Son, ten fine varieties of phlox, several of them seedlings; also, fine Balsams, &c. From Winship & Co., *Erythrina Crista galli*, hardy perpetual roses and cut flowers. From P. Barnes, *Delphinium magnifque* (new and fine,) dahlias, fine phloxes and other flowers.

From Hovey & Co., 15 varieties of phlox, including seedlings; also, new seedling verbenas, and variety America, Orb of Day, &c. Bouquets and cut flowers, from J. Nugent, Ezra Cleaves, Thos. Page, Miss Russell, Wm. Shimmis, J. C. Pratt, Miss Mary R. Richards, Mary M. Kenrick, J. W. Crafts, W. E. Carter and others.

PREMIUMS AND GRATUITIES AWARDED.

AUTUMNAL PHLOXES.—For the best 10 varieties, to J. Breck & Son, \$6.

For the second best, to P. Barnes, \$4.

For the third best, to Hovey & Co., \$2.

GRATUITIES.—To Winship & Co., for cut flowers, \$2.

To J. W. Crafts, for *Yucca aloifolia*, \$2.

To J. Nugent, for cut flowers, \$2.

To P. Barnes, J. Breck & Son, W. E. Carter, and Miss Russell, for bouquets, &c., \$1 each.

FRUITS.—From J. W. Foster, Red Astrachan, Sopsavine, and Early Harvest apples. From B. V. French, apples—Williams, River, and one for a name. From A. W. Stetson, plums, (seedling.) From D. W. Lincoln, pears—Rostiezer, (superior.) From M. H. Simpson, peaches—Teton de Venus; grapes—Cannon Hall Muscat, two dishes Black Prince, and three dishes of Black Hamburg; Red Astrachan apples, (very fine.) From F. Burr, Jargonelle pears; Red Astrachan apples, Early Harvest do., (superior;) Drap d'Or plums. From B. Harrington, River, Williams and Sopsavine (superior) apples. From W. R. Austin, White Dutch Currants, (superior.) From Geo. T. Cooke, Beurré Giffart pear. From J. P. Cushing, grapes—White Frontignan, Black Hamburg, Syrian; three Persian melons; one melon, (hybrid.) From J. Prichard, grapes—Macready's Early White, Chasselas Fontainebleau, White Frontignan, Royal Muscadine, Black Hamburg, (very fine.) From J. S. Sleeper, Apricot plums. From Winship & Co., Bloodgood, Summer Frano Real, Jargonelle and Julienne pears; Bardin, Early Sweet Bough, and one apple for a name. From P. Barnes, pears—Rostiezer.

From A. D. Williams, pears; apples—Williams and Red Astrachan. From H. Vandine, Williams apple; plums—Wilmot's Early Orleans, Washington and seedlings. From O. Johnson, Early Bough apples, superior. From F. Dana, Spice Sweet apples; Pear Seedling, No. 2. From G. B. Cordwell, Duane's Purple plum. From S. Walker, pears—Passans du Portugal, Belle d'Aout, Tyson, Seedling. From W. C. Strong, Chasselas

grapes from a coldhouse; peaches and nectarines. From J. F. Allen, pears—Summer Franc Real, Manning's Elizabeth; peaches—George IV, and others; grapes—Prince Albert, Bishop. From S. Downer, Jr., pears—Bloodgood, extra. From E. Cleaves, Beverly, pears—Bloodgood; apricots. From J. Lovett, pears—Bloodgood, one for a name; apples—Sweet Bough, Red Astrachan, superior, Williams. From E. M. Richards, Christiana melon; apples—Summer Rose, Early Strawberry, Benoni; pears for a name. From Hovey & Co., pears—Passans du Portugal Manning's Elizabeth, Rostiezer, Bloodgood, New Native, Poire de Foret, Green Chisel, Summer Compote, Summer Franc Real, London Sugar. From J. Richardson, plums—Early Yellow Gage, six boxes; do. Black, five boxes. From Martha S. Cole, pears—Muskingum.

August 28—Exhibited.—**FLOWERS:** From Messrs. Winship, a great variety of flowering shrubs and perennial plants. From P. Barnes, fine pentstemons, phloxes, among them two seedlings; balsams, dahlias, &c. From J. Nugent, German asters, dahlias, gladiolus, roses, and many others. From C. Copeland, roses, fuchsias, scarlet geraniums, dahlias, verbenas, &c. From B. V. French, dahlias, roses, coxcombs, balsams, and other fine flowers. From J. Hovey, two bouquets. From J. French, beautiful antirrhinums and German asters. From Miss Russell, a basket of flowers; also cut flowers, in variety. From Hovey & Co., a seedling phlox, called Florence, white, with red eye. From T. Page, a handsome bouquet.

FRUITS.—From the President of the Society, pears—Summer Franc Real, (fine.) Sugar of Hoyerswerda, European Honey. From W. R. Austin, pears—Summer Franc Real, (ex superior.) From J. M. Earle, (Worcester,) pears—Rostiezer. From A. A. Andrews, pears—Bartlett, B. d'Amanlia, Summer Franc Real; apples and plums in variety. From M. S. Cole, Muskingum pear; McLaughlin plum. From W. C. Strong, Snow peach, (fine;) Newton nectarines; grapes—White Chasselas, Rose do., Golden do. From J. F. Allen, peaches—Late Admirable; grapes—Poiteau Noir, (fine;) pears—Bartlett, Manning's Elizabeth, Passans du Portugal, Summer Franc Real. From J. Lovett, apples—Seedling; plums—Golden Cherry, Foster, Washington, Black Imperial, and seedlings; pears—Tyson, Rostiezer. From E. M. Richards, apples—Benoni, and Lady Haley's Non-such. From Winship & Co., pears—Dearborn's Seedling, Winship's do., Washington, Summer Franc Real; apples—Virgin. From Mrs. L. Spaulding, apples—Early Bough; plums—Red Gage, Washington. From S. Walker, pears—Rostiezer. From A. D. Webber, melons—Christiana (?). From B. Colley, apples—Seedling Sweet. From E. Cleaves, plums—Drap d'Or; apricots. From J. Washburn, apples—Manomet. From Wm. Wallis, grapes—Black Cluster. From B. Harrington, apples—River, Porter, Williams, and Seek-no-further.

From G. Merriam, blackberries, fine; peaches—Crawford's Early, fine; plums—Bolmar Washington, Jefferson. From O. Johnson, pears—Rostiezer. From J. B. Moore, apples—Api gros d'Ete, Orange Sweet. From J. S. Sleeper, pears—Summer Franc Real, Summer Rose, Dearborn's Seedling; plums—Smith's Orleans. From H. Vandine, pears—Green Sugar,

Bloodgood, Rostiezer; plums—Wilmot's Early Orleans, Bingham, Columbian, and ten other kinds; grapes—Native. From A. D. Williams, apples—Williams, fine, Gravenstein; pears—Jargonelle, Dearborn's Seedling. From J. Stickney, plums—Bradshaw; pears—Summer Franc Real, very fine; melons—Christiana and others; apples. From Hovey & Co., pears—Bloodgood, Rostiezer, Passans du Portugal, Golcondi Nova, New Native, Dearborn's Seedling, London Sugar, Summer Franc Real; plums—Thomas, Washington, Cooper's Large Red; St. Michael figs. From H. B. Stanwood—apricots. From G. Walsh, plums—Green Gage, fine.

PREMIUMS AWARDED FOR FRUITS.

SUMMER PEARS.—For the best, to W. R. Austin, for Summer Franc Real, \$6

For the second best, to S. Downer, Jr., for Bloodgood, \$4.

BLACKBERRIES.—For the best, to G. Merriam, \$5.

For the second best, to C. E. Grant, \$3.

GOOSEBERRIES.—For the best, to J. W. Foster, for a Seedling, \$4.

For the second best, to J. S. Amory, \$2.

September 4th.—An adjourned meeting of the Society was held to day,—the President in the chair.

The President reported that the estate in the rear of the hall had been purchased by the Society, and conveyed to them: and it was voted that the doings of the Executive Committee be ratified by the Society.

A letter was read from M. Leroy, acknowledging his election as a corresponding member. A letter was also read from Warren & Co., of Sacramento, accompanied by a box of seeds for distribution among the members; the thanks of the Society were voted, and the seeds placed in the hands of the Flower Committee for distribution.

Delegates were appointed to attend the Rhode Island Horticultural Society, New York Horticultural Society, and Pennsylvania Horticultural Society.

Messrs. Walker, C. M. Hovey, French, Austin and Wight, were appointed delegates to attend the American Institute in October.

Mr. Newhall, from the committee appointed for that purpose, reported that they had attended to their duty, and had presented to the late President three pieces of plate, agreeably to the correspondence submitted. Adjourned one week, to September 11.

Exhibited.—FLOWERS: Cut flowers, asters, &c., in variety, from B. V. French, J. Nugent, P. Barnes, H. S. Waldo, Jr., W. Kenrick, T. Page, J. Hovey, G. Leland, Hovey & Co., and C. Copeland.

PREMIUMS AND GRATUITIES AWARDED FOR ASTERS.

For the best display, in which was considered the greatest number of varieties and perfection of flowers, as well as quantity, to Messrs. Hovey & Co., 1st premium of \$4.

For the second best display, to J. Nugent, 2d premium, \$3.

For the greatest display in quantity, but lacking in the number of varieties, to P. Barnes, a gratuity of \$3.

FRUITS: From the President of the Society, pears—Calliot Rosa, Tyson, and Summer Franc Real. From C. E. Grant, peaches—Coolidge's Favorite. From J. W. Foster, pears—Belle Lucrative; apples. From B. Harrington, apples—Porter, Seek-no-Further, Ramshorn, River, Red and Green Sweet, Sweet, and one for a name; pears—Bartlett. From F. Burr, plums—ten varieties; pears—Julienne, Summer Belle. From C. J. Hall, pears—Bartlett; plums—Green Gage, Napoleon, Imperial Gage. From A. D. Williams, apples—Gravenstein, Spice; pears—Andrews, Dearborn's Seedling. From W. C. Strong, nectarines—Red Roman, Newington; grapes—Chasselas Musque, Golden Chasselas, White Frontignan, Rose Chasselas, White Chasselas, Black Hamburg; peaches—Snow; plums. From J. P. Oliver, pears—seedling. From J. F. Allen, pears—Belle Lucrative, Bartlett, seedling from Glout Morceau, and St. Ghislain, fine; peaches—New Jersey, Grosse Mignonne; grapes—Poiteau Noir; figs. From H. Vandine, pears—Andrews, St. Ghislain, Mason, Dearborn's Seedling; plums—13 kinds. From J. Lovett, plums—Green Gage; currants—Gondonin, fine, Victoria; pears—Passans du Portugal. From J. Parsons, Jr., plums—Jefferson, very fine, Cruger's Scarlet, Kirk, Duane's Purple, Columbia; pears—Doyenné Boussock, Belle et Bonne, Julienne, Beurré de Beaumont.

From Hovey & Co., pears—Dearborn's Seedling, Doyenné Boussock, Golcondi Nova, Vallee Franche, Summer Franc Real, New Native, Julienne, Hessel, and Calebasse d'Ete. From G. Leland, pears—Bartlett, fine, Summer Franc Real; grapes—Syrian, Black Hamburg. From E. Cleaves, plums—Washington, Bradshaw. From B. V. French, apples—Hawthornden, Summer Pearmain, Sparhawk, St. Lawrence, Red and Green Striped, Green Sweet, Gravenstein; pears—Tyson. From J. Prichard, grapes—Black Hamburg, three dishes, very fine, Royal Muscadine, one dish. From J. Washburn, apples—Summer Queen, fine. From J. Stickney, plums—Columbia, Jefferson, Kirk (?) From A. A. Andrews, pears—Bartlett, fine, Flemish Beauty, Beurré d'Amanlis; apples. From F. Dana, pears—seedling.

Fruits of various kinds were also exhibited by A. D. Webber, Winship & Co., Isaac Mullikin, E. Perry, J. S. Sleeper, J. French, T. Crosby, J. Bigelow, J. Hill, A. Bowditch, G. Merriam, Chas. Wells, and A. Coolidge.

Fruits tested.—From J. Washburn, Summer Queen apples, very good. From F. Glazier, Moses Wood apple. From A. D. Webber, Christiana melons; a variety resembling it, very fine. From B. V. French, Tyson pears. From S. Walker, pears—Tyson, Dearborn's Seedling, Rostiezer, Beurré d'Amalis. From R. Manning, pears—Karabudy, Moyamensing; plums—unnamed.

From Hovey & Co., Moore's Pound, a new pear, large and handsome, and promises to be fine; Calebasse d'Ete, (Esperin,) promises to be good; New Native pear, superior.

VEGETABLES: From J. B. Moore, Sweet potatoes, White Bengal onions, White Portugal do., and Davers Thick Yellow do., fine. From B. Harrington, celery. From J. C. Amory, Okra. From J. French, egg plants.

September 11th.—An adjourned meeting of the Society was held to-day,—Vice President Stickney in the chair.

Messrs. Hovey, Bowditch and Nugent, were chosen a committee to consider the propriety of awarding some testimonial to Mr. A. W. Story. Adjourned one week, to September 18th.

Exhibited.—**FLOWERS** in variety from J. Breck & Son, J. A. Kenrick, J. Nugent, P. Barnes, W. Kenrick, E. M. Richards, J. Hovey, T. Page, L. Davenport, and Mrs. Spaulding.

FRUITS: From Hovey & Co., pears—Moore's Pound, (native,) Doyenné Boussock, Beurré Beaumont, Bartlett, Julienne, Cabot, Belle Lucrative, Rousselet de Meester, St. André. From A. Bowditch, pears—Belle Lucrative, Dunmore, Bartlett, B. d'Amalis; peaches—Coolidge's Favorite. From C. E. Grant, pears—Bartlett, fine; grapes—four varieties; peaches—Bergens Yellow, Crawford, Grosse Mignonne. From E. S. Rand, peaches—Early Crawford. From A. W. Stetson, grapes—Seedling No. 4; peaches—Early Crawford; melons—Christiana, Mountain Sweet. From Charles I. Hall, peaches—Napoleon. From Winship & Co., pears—Golden Beurré of Bilboa, Julienne, B. d'Amalis, B. Picquery, Bartlett. From E. Bemis, pears—B. d'Amalis, Doyenne Boussock, Van Mons Leon le Clerc. From W. B. Kingsbury, pears—Merriam.

From J. W. Foster, peaches—Early Crawford. From Daniel T. Curtis, pears—seedling. From F. T. Gray, peaches. From W. P. Hewins, apples—Sweet. From A. Pierce, apples—President, York Sweet. From O. S. Quimby, nectarines, fine. From J. Eustis, five kinds of apples, peaches and pears. From B. Harrington, apples—Porter, River, Seek-no-Further; pears—Bartlett; peaches—Clingstone, Crawford. From A. Coolidge, plums—seedling, Golden Drop. From F. Burr, apples—seedling, Summer Queen, Curtes Levantine; pears—Golden Beurré; plums—ten varieties. From J. Dunklee, apples. From F. L. Capen, apples—seedling. From E. Marsh, pears—Cushing. From H. Vandine, plums—eight varieties; grapes—Early Cluster; pears—Bartlett, Summer Franc Real, Flemish Beauty, St. Ghislain; apples—Porter, one for a name. From W. C. Strong, grapes—nine varieties; peaches—Grosse Mignonne, fine. From J. F. Allen, pears—Bartlett, Belle Lucrative, Dearborn's Seedling; nectarines—Elruge; grapes—Bowker, Bishop, Poiteau Noir. From S. Downer, Jr., a fine collection, including pears—Bartlett, Golden Beurré of Bilboa, Andrews, B. d'Amanlis, Dearborn's Seedling. From Josiah Lovett, 2d, pears—Beurré d'Amanlis, Harvard. From E. M. Richards, pears—Cushing. From J. Hovey, peaches. From Mrs. Spaulding, peaches; pears—Bartlett, Dearborn's Seedling.

Fruits tested.—From T. Parsons, Julienne pears. From J. W. Blanchard, pears—Dunmore, and Louise Bonne de Jersey. From J. S. Sleeper, Colmar d'Ete pears. From Hovey & Co., pears—Calebasse d'Ete, Moore's Pound, Beau Present d'Artois, Bergamot Leseble, Tea Pear, and a seedling giving good promise. From F. Dana, pears—a seedling of promise. From J. F. Allen, peaches and nectarines. From A. W. Stetson, Seedling Grape No 4. From Hovey & Co., melons—Nutmeg, Hunter, Persian, (fine,) a Hybrid, (fine.)

VEGETABLES: From Bowen Harrington, Celery.

THE TWENTY-FOURTH ANNUAL EXHIBITION. *September 21, 22, 23, and 24.*—The Annual Exhibition was held on Tuesday the 21st of September, at the Public Garden in Charles street. The increasing number of exhibitors, and the greater variety of fruits, rendered it impossible for the Society to hold it in its hall in School street and it was deemed advisable to have it under a pavilion in the open air, in the same manner that the London Horticultural Society has its exhibitions at Chiswick in preference to a large hall. The change has been a good one, both for the Society, the accommodation of exhibitors, and the public. The place selected was the Public Garden: and the mammoth pavilion of John Wright, measuring 200 feet long, and 100 feet wide, was engaged for the occasion. This was fitted up with six rows of tables, measuring, in all, more than 1000 running feet. The two outside rows, running parallel with the sides of the pavilion, were three feet wide, and were devoted to flowers and vegetables. The four other tables, forming semicircles on each side of the centre, were five feet wide, and were devoted to fruit. The centre was fitted up with a handsome stage, which was filled with the most beautiful plants; and at each end of the stage the circular stands of the Society were filled with the choicest cut flowers, bouquets, &c. The sides of the pavilion were covered with evergreen trees, and the poles sustaining the centre were beautifully wreathed with evergreens and flowers. The whole forming one of the most splendid scenes of the kind ever seen. The entrance was through a well proportioned arch, handsomely wreathed with evergreen.

As regards the fruit, it is almost impossible to do anything like justice to the magnificent display. Never before were such specimens seen, or in anything like the profusion. The total number of dishes, baskets, &c., placed upon the tables, exceeded *three thousand four hundred*, many of them containing a peck or more, each; amounting, in all, to more than 100 bushels, about two-thirds of which were pears. We almost doubt whether a better season for pears will occur again for some time. The individual specimens were superb. Beurré Diel, Duchesse, Beurré d'Ajou, Marie Louise, Louise Bonne of Jersey, Doyenne Boussock, Swan's Orange, and other large and showy pears, were shown in greater perfection than we ever before saw there. We regret that our space will not allow us to particularize many of the kinds which were especially prominent. Nearly every exhibitor had one or more superior specimens. The greatest number of *named* fruits came from Messrs. Hovey & Co., who showed 250 sorts of pears, and 40 of apples, 10 of grapes, figs, &c.; next came Mr. French, with his great variety, 116 of apples, and 110 of pears, (90 unnamed;) then Mr. Wilder, with 240 kinds of pears. The President of the Society, Messrs. Walker, Manning, Stickney, and others, also had large and fine collections of pears, and J. B. Moore, A. D. Williams, J. Eustis, J. Lovett, and others, of apples. Peaches, plums and grapes were not abundant, nor the specimens so good as usual; this we attribute in part to the late season of the exhibition, after many of the plums and pears were gone.

PLANTS.—The display of plants was not very large, but the specimens were many of them very beautiful. Time would not allow the collection

of so large a number as was needed to make a grand display. Mr. Cushing sent, among others, a fine grown specimen of the pitcher plant, (*Nepenthes distillatoria*), which attracted great attention; also a beautiful *Dipladenia crassinodes*, fine *Torenia*s, *fuchsias*, &c. From Hovey & Co., an exquisite *Stephanotus*, in full flower, *Torenia*s, *fuchsias*, among them Prince Arthur, Actæon, &c., *Lantana camara*, a fine specimen, *Ipomœa scifolia*, and *Maurandias*, trained to balloon trellises; a superb example of *Erica cerinthoides*, in full bloom, &c. From M. P. Wilder, *fuchsias* in variety, *cryptomerias*, *Deodar cedars*, &c. Plants were also sent by A. Bowditch, J. Nugent, Thos. Page, D. T. Curtis, and others.

BOUQUETS, DESIGNS, CUT FLOWERS, DAHLIAS, &c.—From Hovey & Co., two splendid bouquets for the Bradlee vases; also, two parlor bouquets, cut flowers, German asters, seedling verbenas, dahlia's, &c. From J. Nugent, two fine bouquets for the Society's vases, two parlor bouquets, cut flowers, &c. From A. Bowditch, two fine parlor bouquets, a design for grapes, cut flowers, &c. From O. N. Towne, two large bouquets and cut flowers. From J. Breck & Co., a design for grapes. From F. Burr, a handsome ornament, resembling a tree, made of everlasting and immortal flowers, of various colors, and evergreens. From W. C. Strong, a beautiful arbor for grapes. From H. Schimming, two large bouquets, cut flowers, &c. From P. Barnes, cut flowers, in variety. From F. Burr, cut flowers. From C. Copeland, a handsome floral ornament, and cut flowers. From H. S. Waldo, Jr., a beautiful floral basket, made of a superb variety of asters. Bouquets and cut flowers were also sent by J. Hyde & Son, Miss Russell, Miss Kenrick, B. V. French, A. D. Webber, Winship & Co., T. Page, W. E. Carter, Mary R. Richards, and others.

PREMIUMS AND GRATUITIES AWARDED FOR PLANTS, FLOWERS, &c.

PLANTS IN POTS.—For the best display of twenty plants, to Hovey & Co., \$12.

For the second best, to H. Schimming, \$10.

VASE BOUQUETS.—For the best pair for the Bradlee vases, the Bradlee plate, to Hovey & Co., \$10.

For the second best, to H. Schimming, \$8.

For the best pair, for the Society's vases, to J. Nugent, \$10.

For the second best, to Winship & Co., \$6.

PARLOR BOUQUETS.—For the best pair, to Hovey & Co., \$6.

For the second best, to A. Bowditch, \$6.

For the third best, to J. Nugent, \$5.

For the fourth best, to Thos. Page, \$3.

CUT FLOWERS.—Best display, to P. Barnes, \$8.

For the second best, to Hovey & Co., \$6.

For the third best, to J. Nugent, \$4.

COXCOMBS.—For the best six, to A. McLennan, \$3.

For the second best, to H. Schimming, \$2.

GRATUITIES.—To Thomas Page, for plants, \$8.

To Winship & Co., for cut flowers, \$3.

To Miss Russell, for a basket of flowers and bouquets, \$5.

To Miss Kenrick, for a basket of flowers, \$2.

To Orr N. Towne, for parlor and large bouquets, \$5.

To C. Copeland, for roses and cut flowers, \$5.

To M. P. Wilder, for plants, \$3.

To Cheever Newhall, (for *Lagerstræmia indica*), \$3.

To T. M. Howard, verbenas, \$3.

To A. Bowditch, collection of plants, \$6.

To Messrs. Burr, for a basket and a floral design, \$3.

To Henry S. Waldo, Jr., for a floral design, \$5.

To Charles Copeland, floral design, \$5.

To Messrs. Burr, for cut flowers, \$3.

To A. D. Webber, for bouquets, \$5.

To William Carter, for bouquets, \$2.

FRUIT.—From the President of the Society, 160 varieties of pears, among them the Wredow, Poire Rigoleau, Bonne des Zees, Beurré de Montigeron, Bergamot Libbittent Verte, Notaire Minot, Louise d'Orleans, Millot de Nancy, Walker, St. Dorotheé, Beurré Sprin, Beurré Judes, Baronne de Mello, Catinka, Paul Théliens, Doyenné Defais, Fondante de Malines, Doyenné Goubault, &c.

From B. V. French, 150 varieties of pears, (39 unnamed,) among them, Monarch, Oswego Beurré, Mollett's Seedling Chaumontelle, Suzette de Bavay, Josephine de Malines, Triumph de Jodoigne; also, 178 varieties of apples, (62 unnamed,) embracing all the principal sorts in cultivation.

From S. Walker, 145 varieties of pears, including Ananas d'Ete, Belle de Noel, Beurré Langelier, Bonne des Zees, Smith's Bordenave, Doyenné Goubault, Gratioli, Henkel, Inconnue Van Mons, Monarch, Nouveau Poiteau, Las Canas, Oliver's Russet, Swan's Orange, Oswego Beurré, Suffolk Thorn, Theodore Van Mons, Van Assene, Triumph de Jodoigne, &c.

From M. P. Wilder, 267 varieties of pears, (37 unnamed,) some of which were Abbott, Bonnissime de la Sarthe, Baronne de Mello, Bonne des Zees, Beurré Pimpolle, B. Langelier, B. Superfin, B. Sterckman, Smith's Bordenave, Bergamot Gaudry, Catinka, Calebasse Grosse, (true,) Calebasse de Nerckman, Colmar des Invalids, Choix d'un Amateur, Drake (Edward,) Doyen Dillen, Doyenné Sterckman, D. Goubault, D. Sorlus, Esperin's Seedlings, (three sorts,) Exquis, Grand Soliel, Gustave Burgoyne, Gideon Paridant, Gratioli, Josephine de Malines, Jacob, Kirtland, La Hérard, La Marié, Louis Bosc, Marshall de la Cœur, Princess Royal, Passe Tardive, Rondelet, Richoptier, St. Francois, Theodore Van Mons, Triumph de Jodoigne, Walker, Westcott, &c.

From Hovey & Co., 260 varieties of pears, among them the Adams, Adele de St. Denis, Arboricrite, Beurré Preble, B. Sterckman, B. Duqueame, B. Langelier, Belle après Noel, Belle Julie, Bergamot Leseble, B. Libbittent vert, B. March, B. Esperin, Bonne des Zees, Beurré Merod, Calebasse d'Hiver, Coter, Caen du France, Canandaigua, Doyenné defais, Beurré de Montigeron, Fondante de Malines, Gratioli, Grand Soliel, Guernsey Beurré,

Henkel, Inomineé Patrié, Josephine de Malines, Locke, Monarch, Moaymen-sing, Moore's Pound, Poire Nock, Nouveau Simon Bouvier, Oken d'Hiver, Oswego Beurré, Passe Tardive, Poire de Florence, P. de Groselle, P. Mallot, Princess Royal, Pratt, Poire des Chasseurs, P. des Ridelles, P. de Rondé, Retour Van Mons, Rigouleau, St. Dorothee, Suzette de Bavay, Sheldon, Swan's Orange, Smith's Bordenave, Tea, Triumph de Jodoigne, Van Assene, Vesouzière, Van Mons Late, Yon d'Hiver, Zepherine Gregoire, &c.; also, 41 varieties of apples; Diana, Clinton, Black Hamburg, and other grapes, and St. Michael Figs.

From Winship & Co., 70 varieties of pears, including the Beurré Sterckman, Duchess of Orleans, Triumph de Jodoigne, Baronne de Mello, Fondante de Malines, Sargeret, Pain et Vin, &c.; also, 7 varieties of apples.

From John Gordon, 79 varieties of pears, among them, the Figue, Dix, Swan's Orange, Bonne des Zees, Doyenné Boussock, Gratioli, Buerré Langelier, Steven's Genesee, Soldat Labourer, Monarch, &c., &c.; also, 18 varieties of apples, and 7 of plums.

From Josiah Stiockney, 60 varieties of pears, among them the Jean de Witte, Brougham, Bonne des Zees, Monarch, Thompson's, Beurré Langelier, &c.; also, 17 varieties of apples, among them the Melon, 20 Ounce, Ladies Sweet, Minister, Hurlbut, &c.

From A. D. Williams & Son, 37 varieties of pears, and 32 of apples. From Jos. Lovett, 30 var. of pears, and 29 of apples, and 4 of plums. From O. Johnson, 42 var., including the Doyenné Boussock, Figue, Belle Lucrative, Beurré d'Anjou, &c. From A. Bowditch, 44 var. of pears, and 6 of grapes. From S. Downer, Jr., 34 var. of pears. From H. Vandine, 42 var. of pears, and 10 of plums, and Porter apples. From C. Newhall, 28 var. of pears, and 23 of apples. From E. M. Richards, 15 var. of pears, 21 of apples and orange quinces. From W. R. Austin, 22 var. of pears.

From R. Manning, 167 varieties, including the Monarch, Las Canas, Beurré Preble, Emerald, Petre, Henkel, Howell, Doyenné Goubault, Walker, Dallas, Admiral, Totten, Soldat Labourer; also 16 varieties of plums.

From J. A. Kenrick, 21 varieties of pears, 10 of apples, and 2 of peaches.

From A. H. Ernst, Cincinnati, 21 varieties of pears.

From N. Harris, 19 varieties of pears.

From A. A. Andrews, 20 varieties of pears, 2 of apples, and 2 of quinces. From J. Nesmith, Lowell, 20 varieties of pears, and 12 of grapes. From Jos. Richardson, 12 varieties of pears, and 2 of apples. From J. Owen, 13 varieties of pears, 10 of apples, and 4 of peaches. From O. N. Towne, 15 varieties of pears, and 6 of grapes. From Isaac Fay, 15 varieties of pears, and Coe's Golden Drop plums. From W. A. Craft, 13 varieties of pears.

From F. Burr, 15 varieties of pears, 43 of apples, and 8 of plums. From N. Stetson, 10 varieties of pears. From W. Bacon, 9 varieties of pears. From A. W. Stetson, 6 varieties of pears, 2 var. seedling grapes and Mexican apple. From Stone & Co., 8 varieties of pears, and 10 of apples. From S. Sweetser, 8 varieties of pears, Isabella grapes and Orange quinces. From Geo. Walsh, 9 varieties of pears, and 4 of apples. From J. F.

Edwards, 8 varieties of pears, and 7 of apples. From John Livermore, 4 varieties of pears. From C. J. Hall, 5 varieties of pears and Sweet Water grapes. From W. B. Kingsbury, 14 var. of pears, including the Merriam. From F. Dana, 5 varieties of pears. From W. P. Jenny, 25 var. of pears.

From J. B. Moore, 37 var. of apples. From J. Hyde & Sons, 13 var. of apples. From A. D. Weld, 15 var. of apples. From B. Harrington, 11 var. of apples, and 5 var. of pears. From J. Eustis, 34 var. of apples. From J. Dane, 4 var. of pears. From Geo. E. Adams, 2 var. of pears. From A. B. Magoun, 4 var. of pears. From A. Bullard, 3 var. of pears, and Columbia grapes. From C. J. Hendee, 3 var. of pears. From Geo. Wilson, 2 var. of pears.

From H. B. Stanwood, 2 var. of pears. From Mrs. F. B. Durfee, 2 var. of pears and 5 of grapes. From Dr. H. Adams, fine seedling pears. Pears were also sent by Isaac Mullikin, S. R. Gerry, C. M. Endicott, C. E. Grant, J. B. Loomis, J. Kennan, Chas. May, and Lewis Wheeler.

From E. Tufts, 7 var. of apples. From L. Brigham, Nonpareil apples. Apples were also exhibited by J. C. Blaisdell, J. B. Loomis, M. H. Simpson, S. Smith, Geo. W. Robinson, C. W. Johnson, S. W. Robinson, C. Read, Thos. Richardson, and S. M. Weld.

From Jos. Breck & Co., 10 var. of grapes, including Cannon Hall Muscat, Palestine, and Chasselas Musqué. From W. C. Strong, 21 var. of grapes, among which were Black Damascus, West's St. Peters, Zinfindal, Lombardy, White Gascoigne, &c. From J. F. Allen, 8 var. of grapes, and several of pears and peaches. From J. Prichard, 8 var. of grapes. From H. Hazeltine, 5 var. of grapes. From C. Sampson, 5 var. of grapes. Grapes were also exhibited by C. E. Grant, Thos. Waterman, J. Albree, L. Skelton, and Mrs. Hutchinson.

From S. Smith, Billerica, 4 var. of peaches. From R. J. Crocker, 2 var. of peaches. From A. Bullard, 2 var. peaches. From A. Hagar, Orange quinces. From Thos. Richardson, Orange quinces. From W. Tucker, Canton, cranberries. From J. Holt, peaches. From Geo. Wilson, 4 var. of plums. Plums were also exhibited by Mrs. L. Spaulding, Asaph Mann, Jos. Stickney, and A. Rogers. Peaches from C. L. Tarbell, L. Wheeler, J. C. Blaisdell, and C. P. Dexter.

PRIZES FOR FRUITS.

For the largest collection of pears, consisting of the greatest number of varieties, at least three specimens of each variety, to M. P. Wilder, the Appleton medal, \$30.

For the best and largest collection of best grown varieties, at least three of each, to Hovey & Co., \$30.

For the best and largest collection of apples, of the greatest number of varieties, and best grown, at least three specimens of each variety, to B. V. French, the Appleton medal, \$40.

For the second best, to A. D. Williams & Son, \$20.

APPLES.—For the best twelve varieties, of twelve specimens each, to Jos. Lovett, the Society's plate, \$20.

For the second best, to J. Eustis, \$15.

For the third best, to J. Gordon, \$12.

For the fourth best, to T. B. Moore, \$8.

For the best dish of apples, twelve specimens, to Hovey & Co., for Porter, \$6.

For the second best, to J. Stickney, for melons, \$5.

For the third best, to M. H. Simpson, for Porter, \$4.

For the fourth best, to L. Brigham, for Nonpareil, \$3.

PEARS.—For the best twelve varieties, of twelve specimens each, the Lyman plate, to W. R. Austin, \$20.

For the second best, to J. Stickney, \$15.

For the third best, to S. Downer, Jr., \$12.

For the fourth best, to Hovey & Co., \$8.

For the best dish of pears, twelve specimens, to S. Downer, Jr., for Louise Bonne of Jersey, \$6.

For the second best, to J. Richardson, for Flemish Beauty, \$5.

For the third best, to Geo. B. Ardwell, for White Doyenne, \$4.

For the fourth best, to E. Cleaves, for Marie Louise, \$3.

ASSORTED FRUIT.—For the best basket of Fruit, of various kinds, to O. Johnson, \$10.

For the second best, to J. F. Allen, \$7.

GRAPES.—For the best five varieties, two bunches each, to Mrs. F. Durfee, \$12.

For the second best five varieties, two bunches each, to W. C. Strong, \$8.

For the third best five varieties, two bunches each, to J. F. Allen, \$5.

For the best two varieties, two bunches each, to J. Breck, \$6.

For the second best, to H. Hazeltine, \$4.

For the third best, to C. Sampson, \$2.

PEACHES.—For the best dish, of not less than twelve, to C. L. Tarbell, \$5.

For the second best, to J. A. Kenrick, \$3.

GRATUITIES.—To A. D. Williams, Jos. Richardson, J. Gordon, Sam. Walker, Winship & Co., A. A. Andrews, J. S. Cabot, Jos. Lovett, R. Manning; and O. Johnson, \$7 each, for collections of pears.

To J. S. Sleeper, A. Bowditch, H. Vandine, W. B. Kingsbury, W. Bacon, W. P. Jenny, and Jona. French, \$5 each for pears.

To B. Harrington, C. Newhall, F. Burr, and E. Tufts, the Bronze medal to each, for apples.

To W. C. Strong, and A. Bowditch, \$7 each, for baskets of fruit, and \$3 to J. Breck, for design.

To Geo. Watson, and H. Vandine, \$3 each, for plums.

VEGETABLES.—The display of these was large and exceedingly fine; indeed, the best ever made, on account of the better accommodation of exhibitors. Our space will not now enable us to add only the award of premiums.

PREMIUMS AND GRATUITIES AWARDED FOR VEGETABLES.

VEGETABLES.—For the best display and greatest variety, to Hon. Daniel Webster, Marshfield, \$10.

For the second best, to J. R. Morse, \$2.

For the third best, to A. D. Williams, \$5.

For the fourth best, to Jennie Condy, \$4.

For Mammoth squashes, largest and best, to Sydney B. Morse, Society's silver medal.

For the second best, to Hon. Daniel Webster, \$3.

For pumpkins, largest and best, to R. V. French, Society's silver medal.

For the second best, to John Gordon, \$3.

GRATUITIES.—To Mrs. S. W. Cole, for fine squashes, \$5.

For very fine collection of potatoes, \$5.

To A. D. Weid, for fine seedling potatoes, \$2.

To B. Harrington, for fine potatoes, \$2.

To Stone & Co., for collection of vegetables, \$3.

To J. Gordon, for fine collection of squashes and vegetables, \$3.

To J. B. Hathaway, for fine collection of vegetables, \$5.

To J. Hyde & Son, for fine potatoes and other vegetables, \$5.

To R. V. French, for egg plants and large collection of vegetables, \$5.

To Messrs. Burr, for superior sweet corn, \$5.

To A. McLennan, for very fine egg plants, \$6.

To J. Stickney, for superior cauliflowers, \$3.

For collection of vegetables, \$5.

To Jonathan Mann, for collection of vegetables, \$5.

To Hovey & Co., for variety of tomatoes, \$3.

To P. Barnes, for White Egg plant and corn, \$2.

To A. R. Pope, for Old Colony Sweet corn, \$2.

To Hon. Daniel Webster, for celery and beets, \$3.

To Sydney B. Morse, for variety of squashes and pumpkins, \$3.

To E. M. Richards, for variety of squashes, \$2.

To Nahum Stetson, for very fine tomatoes, \$2.

To Chas. Stone, for very fine Black Spanish melons, \$6.

To A. Bowditch, for Lima beans, \$2.

To John Hill, for large bulky melons, \$1.

To A. W. Stetson, for squashes, \$2.

To A. D. Williams, for squashes, \$2.

To Mrs. Page, for Snake cucumber and new variety of melons, \$3.

HORTICULTURAL OPERATIONS

FOR OCTOBER.

FRUIT DEPARTMENT.

THE month of September has been cool, but unattended with any severe frosts. The heavy and refreshing rains of the earlier part of the month have added new vigor to vegetation, and trees which had suffered severely are now putting out buds and blossoms, to the great injury of next year's crop; but while only a small number have thus been affected in this way, others, bearing good crops, have been greatly benefited, and the fruit has swelled up rapidly.

Now is a good time to look over trees, and where there are large quantities which will require time to prune in the spring, considerable may be done now to save time; the young and unripe wood may be in many instances cut out, and even the trees thinned out where too crowded. Some cultivators approve of autumn pruning altogether; we do not: yet we think there can be no objection to proceeding with it to some extent, and finishing the whole in the spring.

GRAPEVINES in the greenhouse will now be ripening off their wood, and will require to be well aired in all good weather, as it is desirable to have it matured early, that they may be pruned and laid in to give the house a neat appearance. Vines in the cold houses will now have their crop fully ripe, and by keeping the temperature cool and dry, the grapes may be preserved in very good order till severe weather sets in. Vines in the open air may be now partially pruned, cutting away all wood not wanted for next season or not likely to mature.

STRAWBERRY BEDS should be still looked after; if the weather continues good, weeds will grow apace, and the ground should be kept clear of them by one or more hoeings.

FRUIT TREES, of all kinds, may be safely transplanted after one or two hard frosts, sufficient to take off the foliage.

GOOSEBERRY and **CURRENT BUSHES** may be planted this month.

BUDDED TREES should be looked after: peaches and cherries, growing rapidly, are apt to be girdled by the matting.

Trench and prepare ground intended to be planted with trees next month or in the spring.

FLOWER DEPARTMENT.

The early evenings of the month are generally accompanied with frost, more or less severe. No tender things can be trusted out with safety after the 10th of the month; it is always best to err on the right side, and it is safer to have everything housed a week too early than a day too late. By this we do not mean to say things should be housed in; very tender plants are touched, and these are what we refer to as likely to suffer: all hardy kinds, such as heaths, camellias, lauristinas, &c., should be kept out as long as possible, for the more they are inured to the season, the better will they bear confinement during the winter.

CAMELLIAS should now be properly arranged in the houses. If not thoroughly cleaned, let it be done immediately; wash the pots, top dress the soil, and if the foliage is very dusty, give them a complete syringing; or, what is better, wash every leaf. Supply water liberally after they are housed.

CHRYSANTHEMUMS should be all taken into the greenhouse, the parlor or frame, before severe frosts, as the buds are often injured. Continue to water liberally, occasionally using liquid guano.

PELARGONIUMS will now require but little water; place them in the house, in a cool, airy situation, near the glass, where they will soon make stout and healthy plants.

GARDENIAS, of the different kinds, should be wintered in a warm situation in the house, and be rather sparingly watered.

SCARLET GERANIUMS, Pyrethrums, Eupatoriums, and similar plants, planted out in the open ground, should be taken up carefully and be placed in a close frame till well rooted.

ACHIMENES and GLOXINIAS, done flowering, should be placed away on a dry shelf under the stage.

SPARAXIS, Ixias, and similar bulbs, should now be potted.

OXALISES, of all kinds, may be potted now.

HEATHS should have attention; tie up and put in good order, and top dress the soil. Place in the coolest part of the house, as far out of the reach of strong fire heat as possible.

JAPAN LILIES, in pots, should be placed in a cold frame or in the coolest part of the greenhouse.

AZALEAS should now be rather sparingly watered, and placed in a cool part of the house.

CHINESE PRIMROSES may now have a final shift into their flowering pots.

CINERARIAS, either seedlings or propagated plants, should now be repotted and placed in a warm frame, or on a shelf near the glass in the greenhouse.

ROSES, bedded out for summer blooming, should now be taken up and potted. Use a good rich loamy soil, and place in a frame till cool weather sets in, when they may be pruned and removed to the house.

NEMOPHILA, SCHIZANTHUSES, and other annuals for blooming in winter, should now be shifted into larger pots, and placed in a cool situation near the glass.

VERBENAS, layered last month, should now have their pots taken up and placed in a close frame for a week or two. Cuttings for a spring stock may now be put in.

PETUNIAS and ANTIRRHINUMS should now be propagated for a spring stock.

CACTI should now be sparingly watered, with the exception of the fall flowering kinds, which will need the usual supply.

MONTHLY CARNATIONS and PINKS should now be shifted into larger pots. Pot late layers, and place in a frame.

FUCHSIAS done blooming, may be placed away under the stage in a cool place.

PANSIES for blooming in the greenhouse, should be potted and placed in a frame. Seeds may also be sown now.

GREENHOUSE PLANTS, of all kinds, should be now prepared for winter by tying up, top dressing, &c. Arrange all in the places best suited to their habits and to create the best effect in the house.

FLOWER GARDEN AND SHRUBBERY.

The early frosts make sad havoc among the tender plants in the flower garden. The dahlias are the first to feel its effects, and hang their blackened heads after the first severe night. But the gardener who would have everything neat here, as it should be, will soon cut away all unsightly objects, and among them the dahlias will be prominent. Everything which the frost disfigures should be removed as soon as possible. In this way, and by constant attention, the flower garden may be made to keep up its interest till December.

THE MAGAZINE OF HORTICULTURE.

NOVEMBER, 1852.

ORIGINAL COMMUNICATIONS.

ART. I. *Some of the Rarer Plants of Vermont.* By R.

THE substance of the following article I was kindly permitted to use by the Rev. A. H. Clapp and Charles C. Frost, Esq., of Brattleboro', who, in the latter part of the month of July last, made an excursion to a remarkable botanical region, in the neighborhood of Willoughby Lake, in quest of plants and other objects of interest. Deeming such information congenial to the spirit of your Magazine, I have placed it at your disposal, as subserving the cause of Botany and Floriculture.

Have you ever heard of WILLOUGHBY LAKE? If my reader says no, let me inform him that said Willoughby Lake is in the small township of Westmore, Vermont, twenty-one miles north of St. Johnsbury. St. Johnsbury is easily accessible from *any* quarter, but *we* were borne first along the Vermont Valley Railroad, on the banks of the Connecticut, catching glimpses through the opening hills, on either hand, of such delightful *bits* of landscape as Fisher, or Brown, or Cole would have loved to paint. An hour,—and we were at Bel-lows' Falls, where, by delay of the Boston train, we indulged in admiration of the scenery adjacent, and of other noticeable subjects, until, admonished by the shrilly whistle of the time of departure, we embarked on the Sullivan train, and off again through a succession of other delightful scenery, looking now down on quiet farms ornamented with the graceful Elm

side by side, yet in striking contrast, with the staid and proper Maple,—and now at Ascutney, with its sociable peaks, 3100 feet high, wooded to the top, and seemingly sloping gently down into the plain,—and so to Windsor. Hence the Vermont Central Railroad enabled us to reach White River, where, by another railroad, viz., the Connecticut and Passumpsic, we were transported to ST. JOHNSBURY. The scenery has been changing its character, meanwhile, for these last sixty miles. Northeastward, the White Mountain range,—elements of the grand mingling with the bewitching beauty of the nearer view.

Every body knows what a wonderful and curiously contrived convenience a railroad is; and to him who would fain explore mountain streams or mountain lakes for the finny tribes, or, in no less exciting devotion, to flower hunting would engage, such modern innovations on the primitive style of forest travelling are, with all their injuries inflicted on Dame Nature, of an available commodity. We can easily imagine the delight which sprung up in the breast of one of our tourists, who thus, in the brief space of a day's time, was rapidly approaching—not, my reader, *the*, but—a GARDEN OF EDEN,—where the plants, if not the fruits, of tempting beauty, had almost wasted their charms and fragrance on the desert air. It were not necessary, then, to tell you of all the wonders to be seen about the last mentioned town, nor how there is a great factory, where one of the emblems of Justice is produced in vast quantity, nor how proverbial for thrift, industry and morality the village is; for to reach Willoughby Lake, you must betake yourself, after due refreshment by bed and board, an' you like, to some vehicle which shall carry you through Lyndon. Emerging thence into the rural districts, where good farms, well cultivated, and fine specimens of grazing cattle, engage your attention close at hand; while Burke Mountain, 3500 feet high, of ever-changing, but of ever-noble outline, continually attracts your eye eastward. The first good view of the mountains between which the lake lies, is obtained about eight miles this side of it. On the east, PISGAH or ANNANCE, so named in the latter instance

from a chief of the St. Francis tribe of Indians, its western face bare and rocky. HOR, on the west, presents a long tabular outline, sloping gently to the north, and dropping suddenly off to the northern and southern extremities. Ascending now a wooded slope, the height of land separating the tributaries of the Connecticut from those of the St. Lawrence, a scene of grandeur and of beauty opens upon you; the lake, of clear deep blue, calmly sleeping between its two overhanging sentinels,—in the distance, OWL'S HEAD, rising out of Memphremagog like a giant, keeping also its ceaseless watch over the region.

Once upon the bosom of the lake, you begin to appreciate the features of your *locale*. There you may glance your eye upwards from its waters on the perpendicular fronts of those two mountains, the eastern towering 1950 feet, and the western one 1500 feet, from where you are lying in your boat. ANNANCE is the more striking object, however. Its base is wooded for about 600 feet; then a sheer precipice of slate rock for 800 feet, with a granite tower pushed through it, and perhaps 550 feet more of woodland crowns the whole. A cave on the east shore, just where the granite cloven foot of Annance steps down into the lake, bears the universally accepted if not acceptable name, wherever anything strange or mysterious is found, of Devil's Den; on the wet rocks in the entrance of which, some interesting lichen was detected by Mr. Frost,—a *Collèma*, I presume.

It is by the aid of a road, and while opposite this place, that you must turn directly east up the mountain, on an angle of 40 degrees, and difficult of ascent from fallen trees, undergrowth, and, worse than all, branches of the White Cedar. Would you enter the domains of Flora, in her modern Garden of Eden? Never mind, then, but crawl on for 500 or 600 feet, and you shall be more than repaid by coming into an open field of five or six acres, clear of trees, a part of it overhung by the precipice, protected from the winds and storms,—a natural conservatory. This is the flower garden. It was on this ascent that Mr. Frost felt himself entering a region of great botanical interest. The southwestern slope

of Mount Annance he found covered with trees, principally *Thuja occidentalis* and *Cupressus thyoides*, as far upward as the 600 feet just mentioned. There was scarcely a rock or boulder to be seen. The surface consists of a rich black soil, and cold; and he found those plants which usually occur in such soils. The specimens were of unusual size and luxuriance; *Clintonia borealis*, with leaves four to six times as large as are common, and with scapes having two and even four umbels. The beautiful mosses, viz., *Hypnum splendens* and *Hypnum crista castrensis*, were of great extent. Passing these and arriving at the open field, nearly destitute of stones and grassy sod, the area was covered with flowers of almost innumerable kinds and colors. The declivity on which the "Garden" lies is much less than that of the rest of the mountain, and above it towers the precipice of naked rock, projecting in some places twenty or thirty feet, and affording by this feature, and by its crumbling character, both shelter and richness to the sea of flowers which grow at its base.

The region had been explored some years previous by Mr. Wood, a botanist of merit, and through whose remarkable discoveries there, our tourist was induced to visit the spot. Here Mr. Frost detected again the *Hedysarum boreale*, (NUTT.) not known to exist in any other locality in the United States, and which Prof. GRAY calls a "fine discovery;" also, *Saxifraga oppositifolia* and *Saxifraga aizoides*! Here, likewise, he collected the rare *Primula mistassinica*, (MX.), a veritable *Primula*, reader, bringing in a co-species, "the primrose by the river's brim" of Old England into a pleasant proximity with its representative of our dear New England. Would not some of our florists delight to have them growing together on some rich border of their gardens? Here, also, grew two Sedges of some variety, viz., *Carex scirpoidea*, (found likewise on the Alpine summits of the White Mountains,) and *Carex eburnea*, which we had previously noticed on the picturesque and rocky limestone banks of the Winooski. Here, lastly, among other treasures beside, occurred the very rare *Woodsia glabella*, a tiny fern of the arctic regions,—though found once before on the rocks about Little Falls, New York, as we learn through Gray's Botany, &c., p. 630.

The face of the precipice itself would be a fine place for rare lichens, but the muddy surface of the constantly crumbling rock renders its approach very difficult. *Pteris atropurpurea*, a fern of much beauty, grew here; and with an undetermined species of *Collèma*, two or three lichens, elsewhere noticed, occurred; as likewise on the same rock were seen *Arabis lyrata*, *Draba arabisans* and *Phaca Robbinsii*. Nor were any mosses noticed here,—although elsewhere on the mountain, beside the two species before mentioned, were *Hypnum umbratum* and *Hypnum cupressiforme* in abundance, with several others.

The Gramineæ found in the Garden were *Lolium perenne*, *Danthonia spicata*, *Panicum nitidum* and *P. depauperatum*, *Muhlenbergia sylvatica*, *Calamagrostis canadensis*, and *Oryzopsis melanocarpa*.

Among the more common plants, seventeen of them in flower, were the following, viz.:—

<i>Achillea millefolia</i> ,	<i>Eupatorium purpureum</i> ,
<i>Anemone cylindrica</i> ,	<i>Fragaria virginiana</i> ,
<i>Anemone virginiana</i> ,	<i>Helianthemum canadense</i> ,
<i>Antennaria margaritacea</i> ,	<i>Lonicera ciliata</i> ,
<i>Apocynum hypericifolium</i> ,	<i>Enothera fruticosa</i> ,
<i>Artemisia canadensis</i> ,	<i>Rosa blanda</i> ,
<i>Asclepias cornuti</i> ,	<i>Rubus occidentalis</i> ,
<i>Asclepias quadrifolia</i> ,	<i>Rubus odoratus</i> ,
<i>Campanula rotundifolia</i> ,	<i>Rubus strigosus</i> ,
<i>Circea alpina</i> ,	<i>Rubus triflorus</i> ,
<i>Clematis virginiana</i> ,	<i>Solidago corymbosus</i> ,
<i>Cirsium lanceolatum</i> ,	<i>Solidago lanceolata</i> ,
<i>Eupatorium ageratoides</i> ,	<i>Vitis cordifolia</i> .

As we have observed already, the above list contains but a part of what might be obtained by visiting the Garden at the different seasons when the species make themselves conspicuous by flowering. Indeed, its geology and mineralogy present not a few unusual phases to excite and reward investigation. But a rich return is in store for the botanist, or for the lover as well as cultivator of our *native plants*, who shall make a thorough exploration of this GARDEN OF EDEN, and of its adjacent rock and mountain side. C., F. & R.

Hingham, Oct. 3d, 1852.

ART. II. *Pomological Gossip.*

NEW PEARS.—The favorable season and abundant crop of pears the present year has afforded a fine opportunity to see many of the newer introduced kinds in their best condition. In the two preceding years, the trees have been so small and the crop so scanty that perhaps not more than half a dozen specimens have been gathered from a tree, and those only of ordinary size. Yet it is from such fruit that we have had to form an opinion, unless we would let the opportunity pass, till time and a favorable season would afford a greater quantity of fruit: consequently, in many instances the true character of some of the varieties has not been exhibited; and though enough may have been sometimes seen to gather a fair idea of what a fruit may be, in others, no correct estimate could be formed.

We think there can be no doubt that some very superior varieties will be discovered among the multitudes which have been introduced into our gardens. Indeed, it would be remarkable if there should not; for, among the great number of kinds which are annually produced by the Belgian and French pomologists, it would be almost impossible not to have some superior sorts; and though the task of proving all is an expensive and patient operation, it is all-important that it should be done, that the few meritorious sorts should be distinguished from the worthless kinds which are indiscriminately offered to cultivators.

The season is not yet sufficiently advanced to test the later autumn pears, but of such as have so far ripened, some of them prematurely, we annex the following account:—

Beurré Sterkmans.—A russety-looking fruit, with somewhat the appearance of the Brown Beurré, but more full and rounded at the stem. Flesh, buttery, melting, juicy, high-flavored and delicious. It is a most superior fruit. Oct. and November.

Poire d'Albret.—Medium size, with a deep cinnamon russet skin; somewhat peculiar in shape, pyramidal, swollen on

one side, and contracted near the stem. Flesh, buttery, melting and juicy, with the rich subacid of the Brown Beurré, but higher flavored. October.

Grand Soliel, (Esperin).—Of good size, round, with a pale russety skin. Flesh, melting, very juicy, sugary, and delicious. A most abundant bearer. November.

Bergamot Leseble.—Size, medium, roundish, somewhat flattened: Skin, yellow, tinged with red. Flesh, very melting, juicy, sugary, perfumed and excellent; somewhat resembling a Doyenné. September.

Bonne des Zees has proved one of the finest of our September pears. In size nearly as large as the Bartlett, and somewhat resembling it, though not swollen so much at the crown. Flesh, buttery, melting, juicy, perfumed and delicious. An abundant bearer.

Kingsessing.—A fine native pear, of large size, in general appearance resembling the Stevens' Genesee, and somewhat approaching it in quality, but superior to that fine pear. Flesh, buttery, juicy, high flavored and delicious. September.

Tea.—Another native fruit, from New Haven, of medium size, obovate, little like a White Doyenné. Flesh, melting, juicy, sprightly, vinous, rich and excellent. September.

OHIO STATE POMOLOGICAL SOCIETY.—This society assembled at Columbus, on Tuesday, Aug. 31, at the rooms of the Columbus Horticultural Society.

A. H. Ernst, of Cincinnati, was chosen President, and Dr. J. A. Warder, Secretary.

About forty members were in attendance from ten different counties of the State.

After the preliminary business of the society, the discussion of the various fruits was taken up, commencing with the apples. Quite a number of kinds were examined, and many of them familiar sorts. We shall only notice such as appear to be new and worthy of trial by our Eastern cultivators.

APPLES.

Bohannon.—Specimens from Kentucky. Believed to have been originally from Virginia. Too ripe for a trial. Mr.

Ernst regarded it as "a superior fruit of superior flavor, and a long time in ripening." Fruit, full medium size, roundish and somewhat flattened, pretty regular. Skin, very thin, smooth and glossy; when ripe and exposed to the sun, of a bright crimson on one side, on the other a delicate yellow. Flesh, cream color; crisp, juicy, aromatic and subacid flavor. Ripe in Kentucky from the 20th of July to the end of August. Decided to be "the best dessert apple of the season, also a fine cooking fruit."

Trenton Early.—Mr. Bateham said it was highly recommended, and deserved further attention. It is a large white apple, of excellent flavor, and is highly esteemed for both eating and cooking. It ripens in August, (in Ohio.) Mr. Steele, who sent the specimens, says "if it is not known and cultivated in other portions of the country under another name, it is worthy the attention of the convention." Its origin is not known.

Townsend.—Specimens from F. R. Elliott. They did not sustain the reputation given it,—too dry, yet a rich apple.

Gabriel.—Specimens from Mr. Steele, grown in Clark County. Exhibited at Pomological Congress in 1850, and highly recommended. Considered first rate,—ripening in September and October. Regarded "worthy of attention."

Early Bough, Golden Sweet, passed the convention as first rate varieties. The Porter, Summer Queen, Jersey Sweet, and many other kinds, were discussed, but no decision upon them taken by the convention.

PEARS.

Stevens's Genesee.—Regarded by the convention as first rate, and worthy of extensive cultivation.

Seedlings.—One from the Foster pear, and the other from the Flemish Beauty. Received from M. Lazell. The latter partaking of the Seckel character. Both considered as promising well.

Dearborn's Seedling.—Considered first rate.

Washington passed as first rate in flavor.

Bartlett.—Considered by the convention first rate.

Julienne.—Considered by Dr. Jones, Messrs. Ernst, Elliott

and Dr. Warder, as an excellent fruit, taking all its qualities into consideration. Passed as worthy of cultivation.

A few plums, peaches and grapes were discussed, but no particular information elicited, except in regard to the Clinton, which we have noticed in another page.

The society was permanently organized by the adoption of a constitution and the choice of officers, viz.:—A. H. Ernst, *President*; Dr. J. A. Warder, *Vice President*; F. R. Elliott, *Secretary*; M. B. Bateham, *Treasurer*.

CLINTON GRAPE.—The Clinton Grape has been much extolled by cultivators in Western New York, as a superior variety, ripening before the Isabella. Such high praise induced us to add it to our collection, and the present year the vines are loaded down with the crop. It is a rather small grape, with berries about two thirds the size of the Isabella, and with rather long, somewhat loose bunches, shouldered. Color, very dark, with a thick blue bloom. It ripens between the Diana and the Isabella, about the last of September. The vine is very vigorous, making slender wood, bearing prodigious crops, and perfectly hardy.

This grape came up for discussion before the Ohio Pomological Convention. We copy the report:—

“Mr. Buchanan regarded it as a good table grape, but not valuable for wine.

Mr. J. T. Warder said it was perfectly hardy, the wood not being injured at all by the cold of winter, in consequence of its slender growth; a great bearer. Was introduced into Springfield (Ohio) as the Worthington grape.

Mr. Bateham said it was introduced into Rochester (N. Y.,) twelve or fifteen years ago, and there esteemed as an early, hardy grape.

Dr. Jones regarded it as a fine sample of Western grape, and evidently belonging to the Frost grape family.

Mr. J. T. Warder said it was usually in eating by August 20th at Springfield, and by the time the frost came it was gone.

Mr. Buchanan was familiar with the Frost grape; but did not consider this as one of the family.

Dr. J. A. Warder did not recognize any family of grapes as the "Frost" grape. He moved it be passed as recommended for cultivation for hardiness of vine, free from mildew, early maturity, productiveness, and of value as a table grape,—its qualities for wine being yet unknown. Passed."

NEW SEEDLING GRAPE.—We are highly gratified to announce the production of a new seedling grape from a native vine, fully equal to the Isabella, and ripening, at least, ONE MONTH earlier than that variety. The gentleman who produced it has promised us a full account of its origin, growth, &c., which we shall give to our readers in our next volume. Specimens of the fruit were sent us as early as the middle of September, which were the very last of the crop, and the Isabellas were then so acid as to afford no chance of comparison of the quality of the two. The berries are round, black, and covered with a dense blue bloom: Bunches as large as the Isabella: Skin, thin: Flesh, tender, with scarcely any pulp, exceedingly sweet and delicious. The vine is exceedingly hardy, vigorous and productive. With this and the Diana, every cultivator can have two grapes which will always ensure him a crop of fruit in any season, supplying the place of the Isabella and Catawba; the latter of which rarely ripens, and the former frequently fails to attain its full sweetness in our New England climate.

THE WHITE BLACKBERRY.—Our correspondent, Mr. R. Manning, sends us the following account of this variety of the blackberry, which we have before noticed:—

"This name is given to a pale-fruited species of *Rubus* which has been introduced to notice by Mr. J. Shed Needham, of Locust Vale, West Danvers, whose grounds I visited on the 29th of July, for the purpose of examining the fruit, which was then ripening. It is, as nearly as I can describe it, of a lilac color, somewhat like that of a very ripe Sweet-water grape; shape like the Black; size of the berries and grains not quite as large; of good flavor. The canes are of a light green color, and are thickly covered with short, stiff, green hairs. But what is most remarkable is its productiveness, in which it very far surpasses anything else of the kind

that I have ever seen. The fruit is borne on long clusters, two of which come from every bud; and on two of these, fifty berries have been counted as the produce of a single bud.

The remark of Captain Lovett, (*Magazine of Horticulture*, vol. 16, p. 262,) that no success has attended the attempts made to improve the blackberry by raising seedlings, has suggested to me that good results might be obtained by crossing the white and black; and I hope that those who have the time and inclination will try the experiment. R. M."

NEW FRUITS REPORTED UPON BY THE NATIONAL POMOLOGICAL SOCIETY.—We have delayed noticing the proceedings of the last meeting at Philadelphia in the hope of getting a complete copy, but as none has yet come to hand, we give the report of the committee on "Native Fruits," of which Dr. Brinckle was chairman. In our next we hope to be able to notice the proceedings at length. Mr. F. R. Elliott, from the committee on Native Fruits, made the following report, which was accepted:—

APPLES.

Jeffries: A roundish, flattened yellow ground, striped with red; sprightly, tender, juicy and pleasant. Regarded as "best,"—ripe in September.

Brennaman: Regarded as "good." September.

Willis Sweeting: Regarded as "very good." September.

Autumn Sweet Bough: Regarded as "very good." Sept.

Cox Seedling: From Joshua Embree. Not worthy attention.

Red Grove: From Joshua Embree. Regarded as "very good."

Myers' Apple: Imperfect specimens. Worthy further attention.

Carter Apple: From Virginia—passed as in too imperfect a state to decide upon it.

Zimmerman: Regarded not worth attention.

Seedling No. 3: From H. R. Robey, Virginia—passed as "good."

Green's Choice: From Mrs. M. A. Fulton; a handsome fruit—red striped, sweet; passed as "very good."

Howard: From G. P. Howard; regarded as "very good."

Richard: From E. G. Studley; regarded as "best."

Melt-in-the-Mouth: From Paschall Morris & Co.; regarded as "very good."

Robey's Seedling: From H. R. Robey; passed as "very good."

White Cain: From Joshua Embree; passed as "good."

White Queen: From Joshua Embree; regarded as valueless.

Birmingham: From Joshua Embree; regarded as "good."

Summer Cheese: From H. R. Robey; passed as unworthy.

Virginia Cat Head: A red apple, unworthy culture.

Carnell's Favorite: From Joshua Embree; regarded as "very good."

PEACHES.

Muhlenberg Cling: From A. M. Spangler; regarded as "very good."

Petit: From David Petit; large, yellow, irregular, yellow flesh, sweet and fine. Passed as "very good."

Seedling No. 1: From J. B. Baxter; white flesh, dull whitish green skin, juicy and fine. Passed as very good.

Susquehanna: From H. Randall; very large, yellow. Regarded as best.

PEARS.

Moyamensing: Regarded as "best."

Howell: From E. E. Clark; regarded as "very good."

Styre: From A. W. Corson; resembles somewhat the Gansell's Bergamott in appearance. Regarded as "best."

Henrietta: (Edwards,) regarded as "very good."

Wiest: From Kessler; regarded as "good."

Citron: Regarded as "good."

Edwards' Elizabeth: Regarded as "best."

Seedling from the garden of Governor Edwards; presented by E. E. Clark. Regarded as "best," and recommended by committee to be named the Quinnipiac.

GRAPES.

Seedling from Dr. Valk; bunches fine, large, compact, but too unripe to allow of the Committee's decision.

ART. III. *Some Account of the Beurré Van Mons Pear, with an Engraving of the Fruit.* By Dr. G. W. RUSSELL, Hartford, Conn.

DEAR SIR:—I sent you last week a few specimens of the Beurré Van Mons Pear, (*fig. 36,*) a variety, I believe, not yet much known. The tree is standing in the garden of Mr. Thos. D. Boardman, of this city, and was purchased by him

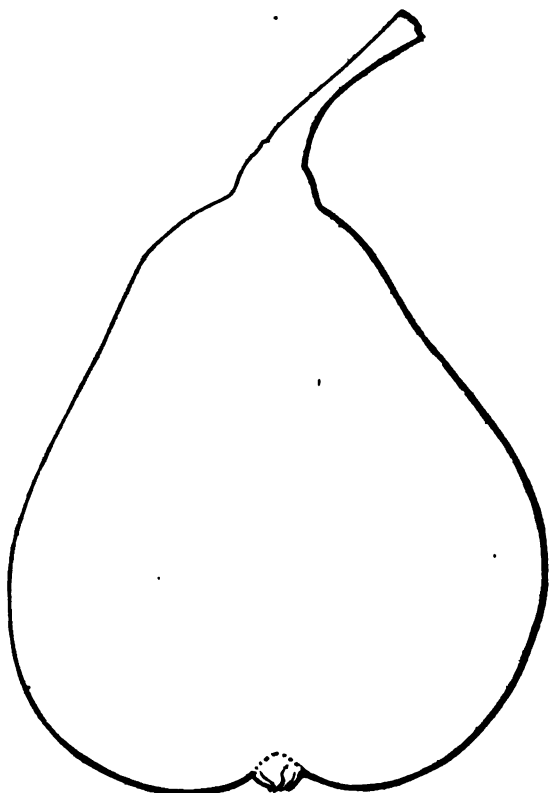


Fig. 36. Beurré Van Mons Pear.

from the late E. W. Bull, who imported it, with others, from Europe. I first recognized it in 1847, and have been familiar with it every year since. It has been a little variable in quality in some seasons, but generally is very delicious.

494 *Some Account of the Beurré Van Mons Pear.*

Specimens were sent to the Congress of Fruit Growers, three years since, and were much admired: you may have seen it at that time. I send you an outline taken from a specimen December 12, 1851. I think that from the middle of October to the middle of November may be regarded as a fair time for its ripening.

Fruit, large, about three inches long by two and a half in diameter, pyramidal, tapering into the stem, a little one-sided: *Skin*, smooth, thickly sprinkled with russet upon a green ground, which becomes yellowish when fully ripe: *Stem*, curved, about an inch in length, slender, and attached to the fruit by a fleshy and wrinkled base: *Eye*, small, in a very shallow and sometimes plaited cavity: segments of the calyx, small and closed: *Flesh*, greenish, buttery and juicy, a little coarse grained at the core, which is small, with a rich subacid and perfumed flavor, which is very delicious.

From my knowledge of it for six years, and comparison with pears of standard reputation, I should say that it would be classed amongst the first rate; and in this opinion I am supported by those who are competent to judge. In damp and cold seasons there is a little astringency developed, which may be overcome, perhaps, when the tree is older, or by a warmer and drier soil, though near by this the Brown Beurré and White Doyenné flourish and produce an abundance of specimens, such as would gladden the heart of any horticulturist. It grows well on the quince.

Hartford, October 18th, 1852.

We are pleased to hear so good an account of the Beurré Van Mons Pear. Three years ago, at the Pomological Convention in New York, alluded to by Dr. Russell, we saw some superior specimens of this pear from New Haven, and were so much impressed in its favor that we made a drawing and description from the specimens, which were tried before the committee on new fruits, of which we happened to be a member. But unfortunately the description was lost, though the outline was retained, and we have never seen another specimen of the fruit until we received one from our corres-

pondent, a few days ago. Another trial of it fully confirms our previous opinion, and justifies all the praise awarded to it by Dr. Russell.

There have been so many pears received from France as the Beurré Van Mons, Beurré de Mons and Poiré de Mons, that we supposed there might be some mistake about the name. As, however, no fruit, to our knowledge, has been received under any other name like this, we are led to conclude it is a distinct variety, and identical with the one described as the Beurré Van Mons, by Mr. Thompson, in the last edition (1852) of the *Catalogue* of the London Horticultural Society.—ED.

ART. IV. *Design for a Flower Garden, with a Selection of Plants adapted for the same.* By the EDITOR.

IN a previous number of our present volume (p. 206) we gave a design for a flower garden, copied from the *Gardeners' Journal*. Referring to the prefatory remarks which we then made, relative to the lack of art displayed in the laying out of most of our American flower gardens, we need not now enlarge upon that point. It is our object in presenting the annexed plan, as well as the one referred to, to aid somewhat in forming a more correct taste for this department of gardening; and it will be our endeavor hereafter to add others which may display either originality of design, harmony of arrangement, or a general good effect.

In the accompanying plan (*fig. 37*) no scale of measurement is given; but we may suppose the diameter of the circle to be about fifty feet, walks about three feet, and the beds in relative proportion: the whole laid out on gravel, with Box edging.

The lowest plants occupy the central beds, and the highest ones the circumference, and it will be observed that they are arranged in concentric circles from the centre to the circumference. The whole plan seems to us admirable in every

part, and is certainly one of the best of the kind we have ever seen. We deem it well worthy of imitation by all who appreciate beauty, variety and harmony in arrangement of flowers.

"Two things are necessary to the beauty of a flower garden,—harmony and variety. Harmony consists in agreement of form, likeness of size, and relation of color; variety, in the indefinite diversity of vegetative existence. If there is variety merely, the garden is strange, extraordinary, fantastic,—it is not fine. If harmony alone is displayed, then it is monotonous, dull, and wearisome. But in the happy combination of the two, resides its power to awaken agreeable sensations and impart delight. This union of harmony and variety is well exemplified in the flower garden of the Duchess of Bedford, at Camden Hill, represented in the annexed engraving.

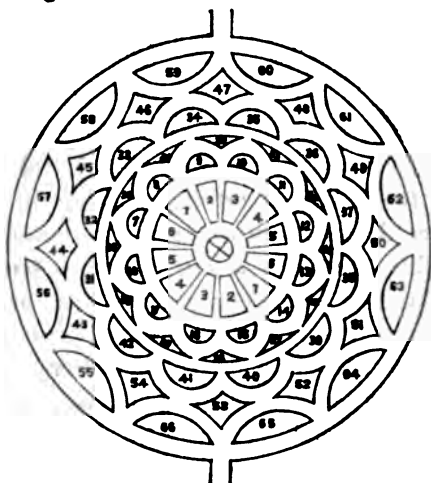


Fig. 37. Plan of the Flower Garden at Camden Hill.

The following is a list of the plants employed :—

CENTRE.

1. *Nierembergia calycina*, white.
2. *Lobelia gracilis*, blue.
3. *Verbena Sabina*, purple.
4. *Lobelia lutea*, yellow.
5. *Anagallis monelli*, blue.
6. *Verbena melindres*, scarlet.

FIRST CIRCLE.

7. *Anagallis monelli*, blue.
8. *Lobelia lutea*, yellow.
9. *Verbena melindres*, scarlet.
10. *Nierembergia gracilis*, white.
11. *Lobelia unidentata*, deep purple.
12. *Lobelia lutea*, yellow.

13. *Campanula garganica*, bright blue.
14. *Anagallis grandiflora*, scarlet.
15. *Lobelia unidentata*, deep purple.
16. *Lotus microphylla*, yellow.
17. *Anagallis grandiflora*, scarlet.
18. *Nierembergia gracilis*, white.

SECOND CIRCLE.

19. *Petunia intermedia*, deep purple.
20. *Alonzoa linearis*, scarlet.
21. *Lantana Selloviana*, purple.
22. *Isotoma axillaris*, blue.
23. *Sanvitalia procumbens*, yellow.
24. *Verbena multifida*, lilac.
25. *Alonzoa linearis*, scarlet.
26. *Oenothera Taraxacifolia*, white.
27. *Nemophila insignis*, blue.
28. *Aster tenella*, lilac.
29. *Petunia intermedia*, deep purple.
30. *Oenothera macrocarpa*, yellow.

THIRD CIRCLE.

31. *Bouvardia triphylla*, scarlet.
32. *Verbena pulchella*, lilac.
33. *Campanula carpatica*, blue.
34. *Escholtzia crocea*, orange.
35. *Lotus Jacobæus*, dark brown.
36. *Bouvardia triphylla*, scarlet.
37. *Buchnera capensis*, white.*
38. *Eutoca viscida*, blue.
39. *Oenothera macrocarpa*, yellow.
40. *Nierembergia filicaulis*, white.

41. Scarlet *Pelargoniums*, scarlet.
42. *Selago Gilliesii*, lilac.

FOURTH CIRCLE.

43. *Petunia nyctaginiflora*, white.
44. *Oenothera cœlestis*, blue.
45. *Escholtzia crocea*, orange.
46. *Petunia phœnicea*, dark purple.
47. Scarlet *Pelargoniums*, scarlet.
48. *Sénecio elegans*, red double variety, purple.
49. *Verbena Lamberti*, purple.
50. *Escholtzia californica*, yellow.
51. *Petunia bicolor*, white.
52. *Lychnis fulgens*, scarlet.
53. *Verbena venosa*, purple.
54. *Lotus Jacobæus*, variety *luteus*, yellow.

FIFTH CIRCLE.

55. *Phlox Drummondii*, purple rose.
56. *Lysimachia verticillata*, yellow.
57. *Oenothera speciosa*, white.
58. *Salvia fulgens*, scarlet.
59. *Lobelia syphilitica*, bright blue.
60. *Lysimachia quadriflora*, yellow.
61. *Phlox Drummondii*, purple.
62. *Oenothera speciosa*, white.
63. *Salvia fulgens*, scarlet.
64. *Asclepias tuberosa*, orange.
65. *Salvia azurea*, blue.
66. *Salvia fulgens*, scarlet.

According to the above arrangement, the colors are not always placed so as to produce harmony in the optical sense of the term. The harmonic colors are arranged in the following order :—

Primitive Colors.

Yellow.
Blue.
Red.

Harmonic Colors.

Violet—mixture of blue and red.
Orange—mixture of red and yellow.
Green—mixture of yellow and blue.

But when the primitive colors are arranged side by side with their harmonising colors, the effect is often so striking as to be

almost unpleasing. Painters avoid this effect by half-tints; the gardener must do the same. Thus, lilac may be advantageously placed by the side of the scarlet. All the plants mentioned bloom freely, and flourish all the summer and autumn. The plants selected are such as form a regular progression in height, from the centre to the circumference, and are all of easy propagation and culture." (*Gardeners' Journal*, 1852, p. 267.)

ART. V. *Notes on Greenhouse Plants, Soil, Potting, Watering, &c., &c.* By HORTUS.

(Concluded from page 304.)

ROUTINE MANAGEMENT OF THE HOUSE.—It has often occurred to us in reading articles on the cultivation of plants, that the writers premise their readers are furnished with every accommodation in the way of cold and warm pits, frames, hothouses, and so forth,—a supposition that tends to lessen the value of the advice, inasmuch as those who have none of these conveniences naturally suppose they are indispensable, and accordingly are deterred from acting upon the advice given. In the early portion of these papers we have enumerated a few plants that can be successfully cultivated in a greenhouse without the assistance of any additional structure. To keep a constant succession of flowers throughout the season, requires discrimination and forethought in selecting and managing the plants, so that the one will take the place of the other as their flowering periods terminate. At the risk of recapitulation, the following monthly routine is intended to place in a more concise and illustrative view the system here alluded to, and furnish an idea of the periodical arrangement of the plants. Of course, there is room for many modifications and improvements. Although not so suitable for our purpose, yet, for the sake of simplicity, we will commence with the first month of the year :

JANUARY.—The general appearance of the house will be as follows. At the warmest end, (that is, where the furnace is placed, which can always be kept a few degrees warmer than the opposite end,) the stage will be occupied with luculias, leschenaultias, stephanotus, epiphyllums, ixoras, torenias, &c., as permanent, with a few azaleas, primroses, heliotropes and others to forward them into flower. The coldest end will be occupied with heaths, camellias, orange trees, epacris, azaleas; and intermediate, such as boronia, chorozeama, polygala, daphnes, geraniums, cinerarias, and similar sorts. The front shelf will be occupied with store pots of verbenas, petunias, gaillardias, and other plants for flower garden purposes, set at the coldest end. Such as require a little heat to keep them growing, (young calceolarias, fuchsias, geraniums, and so on,) will be set nearer the heat; summer flowering plants, (gesneras, achimenes, clerodendrons and gloxinias,) will be stored up underneath the stage, or any out-of-the-way corner, where they can be kept dry. The house will not require much airing in winter; a few of the top sashes lowered a little, during bright days, will be found sufficient. It is not necessary to let in much air during winter, so that care is taken in applying water.

FEBRUARY.—The general aspect of the house will be similar to last month. Geraniums may be shifted into flowering pots, and topped to keep them low and bushy. It is a good time to put azaleas into larger pots, if they require a change. Cactus previously kept dry will require moistening occasionally. A few pots of achimenes, gloxinias, and gesneras, may be placed in a warm corner to start; calceolarias shifted into flowering pots, and fuchsias brought forward to grow.

MARCH.—Epacris, that have done flowering, should have the long shoots cut down. Fuchsias, commenced to grow, should be shaken out of the pots and repotted in fresh soil. Shift young ones into larger pots. Heaths, epacris, and some of the choicest hard-wooded plants, may be set on the front shelf, making room on the stage for geraniums, fuchsias, and calceolarias. The latter will require staking as the flower-stem rises. Sow seeds of balsams, cockscombs, thunbergias,

gloxinias, &c. Shift camellias that require larger pots ; they should be grouped near the warmest end of the house, and syringed frequently while making their growth. Repot leschenaultias, boronias, and plants of similar character ; they should be kept from cold currents of air. The balance of achimenes, gesneras, &c., should now be potted. Fumigate the house occasionally with tobacco smoke. Every greenhouse should have a patent fumigator. Orange trees will require to be liberally watered and syringed. Now that the days are longer and the sun brighter, more water will be required at the roots ; keep the front sashes closed during dry cutting winds, and preserve a moist atmosphere. •

APRIL.—*Calceolarias* will now be in flower : *geraniums* approaching same condition ; stake them out and give them plenty of room. The house may be freed of all half-hardy stuff, as *verbenas*, *petunias*, &c., by placing them out of doors in a sheltered spot ; the north side of a fence is the best situation, where they will be shaded from the sun. Should they happen to get a few degrees of frost, it will not hurt them if the sun does not strike them. The house will now be much crowded. Plants out of flower may be arranged on the top shelves, bringing those in flower nearer and more prominent. *Torenia*s, *tremandra*, *salvias*, *plumbagoes* and *clerodendrons* should be repotted and kept warm. Although firing is discontinued, one end of the house may be kept many degrees warmer by keeping the sashes closed. Shading will now be necessary during bright weather.

MAY.—The house may now be thinned by taking out the orange trees. *Oleanders*, *heaths*, *acacias*, and other large plants, may also be set in a half-shaded situation. *Geraniums* will be coming into flower ; give them plenty of room, and attend carefully to watering ; they will repay all trouble. The same with *cinerarias*. *Azaleas* and *camellias* should be frequently syringed and kept in the house until their growth is completed. All summer flowering plants should be shifted in time to grow them well. *Fuchsias* deserve all care that can be given. Put in cuttings of *chrysanthemums* for flowering in pots. As the *calceolarias* go out of flower, cut down

the stems and set them on the front shelf. Keep the house humid by sprinkling the paths and floor, and air principally by the top lights. When both top and bottom lights are open, it is scarcely possible to keep a sufficient degree of moisture in the air.

JUNE.—*Calceolarias* will be done this month, and seed saved. *Geraniums* in perfection; an occasional watering with liquid manure improves the flowers. Make a sowing of *primula* seed for early winter flowering. *Chrysanthemum* cuttings, put in last month, will now be potted. Top every shoot closely, for the next six weeks, to get filled-up plants. Shift them into 8-inch pots to flower, and stand them out in the sun; never let them want water; the small-flowered kinds are beautiful and unique. Put in a few *heliotrope* cuttings; these will flower in small pots early in winter. *Achimenes*, &c., will require more room; they like shade, and a humid, close atmosphere, but not a great deal of water at the roots; they do best in baskets hung from the roof.

JULY.—As the *geraniums* go out of flower, set them out of doors to harden them a little. *Camellias* and *azaleas* may be set out of doors now that their yearly growth is completed; they will thus more readily form flower buds; they are best in shade from eleven o'clock till four; if the pots are set in coal ashes or tan bark, the roots will be benefited and not require so much water. *Heaths*, *epacris*, *boronias*, *leschenaultias*, and many other plants of like nature, do much better in the house during summer, where a suitable humidity can be given to the atmosphere; the out-of-door aridity is too much for them, and heavy rains destroy them. Keep them in a medium state with regard to water at roots, and refresh them occasionally with the syringe. Make another sowing of *primula* seed; also *geraniums*, if you have saved any. The house will not lack gayety now, if you have attended to *achimenes*. Surely there is not a more beautiful tribe of plants than these, and so easily and cheaply managed; the new ones, *A. gloxinæflora* and *A. longiflora alba*, are gems. It is a good time to pot a few *roses* for winter flowering; they will get well established if placed in good sized pots

and set out of doors. The best for this purpose are those of the Bourbon family; *Souvenir de la Malmaison* is as good as any; *Hermosa*, *Madame Bosauquet*, also *Safrano*. Some of the Hybrid Perpetuals give delicious flowers in this way, although not so early,—*William Jesse* and *La Reine* especially.

AUGUST.—Cut down the geraniums, (or rather, pelargoniums) and put in a stock of cuttings. They will strike readily at the back of a fence; prepare a small spot for them by mixing a large portion of sand in the soil. Do not retain more than one leaf to the cuttings, otherwise they will soon dry up; keep them damp, but not wet; they will root in three or four weeks. After the old plants are cut down, they will not require much water until they again shoot forth. Sow *calceolaria* seed. It is a favorable season for repotting hard-wooded plants; they will make a fine growth during the fall, when it is somewhat cool. Set the fuchsias out of doors when they begin to look shabby; put in a few cuttings, using the points of the young shoots; these will make fine plants for next year's flowering. It is a good time to put down cuttings of greenhouse plants in general. Get a shallow box, about three inches in depth; fill it with sand, and set it on the front shelf in the house; do not drown them with water. Primulas, sown in June, may be shifted into 6-inch pots to flower; use plenty of drainage in the pots. Shift all young plants that require it, but do not overpot those intended for winter flowering. *Mignonette* seed should be also sown.

SEPTEMBER.—The achimenes and plants of similar nature will still be the chief ornament of the house. *Gesnera zebrina* should be well in the shade if you wish to see the full beauty of its leaves. Attend to the *calceolarias*; transplant them as soon as practicable; they are apt to disappear if not looked to in time. Get under cover a stock of soil for winter potting. Cuttings of all half-hardy flower-garden plants may now be inserted; they take root more readily now than earlier in the season, if you do not cool the soil with too much water. Bring in a few of the most forward chrysan-

themums, and withhold water slightly from such of the achimenes as indicate maturity by the bottom leaves changing color.

OCTOBER.—All the plants will require to be housed towards the middle of the month. Previous to this, the house should have a thorough cleansing in every part. The heating apparatus should also be examined, and any necessary repairs or alterations attended to. Hot water is now in general use for increasing the temperature, but the old smoke flue is not to be despised. In many instances it will still be preferred. Of course, all the pots will be cleaned before they are placed on the stage. The temperature will now be kept as low as possible to guard against exciting such plants as have completed their growth. Water should be gradually diminished in quantity to most things; they will thus be enabled to withstand extremes of temperature with less injury, and prepare them for a short resting season. Lift Scarlet geraniums, salvias, *Cuphea platycentra*, &c., out of the flower garden, and pot them. Cut in these plants rather close; they will soon establish a fresh supply of roots, and grow luxuriantly. Chrysanthemums, not indicating an appearance of flower buds, should be kept rather scant of water. Achimenes should not be neglected immediately after they cease blooming; keep them warm and moist until the tubers are matured; store them in a dry, warm location all winter.

NOVEMBER AND DECEMBER.—The house will now have a wintry appearance,—not a bleak one, however. Camellias, azaleas, epiphyllums, coronilla, primroses, and many other things, will be coming into flower. As an easily grown and beautiful climber, the *Tropæolum Lobbianum* ranks high; it will be in perfection now. Rearrange the plants occasionally; changing their positions prevents monotony in appearance, and conduces to their health. Much taste can be displayed in arranging and grouping those of similar habits and natures. When

“Sultry blasts lay fields and forests bare,”

a greenhouse becomes doubly interesting. Opportunities of leisure should be employed in making stakes, labels, &c.,

saving time in more busy seasons. Let every plant be properly named, with the name of its native country attached. This will be a source of gratification to yourself, and prove very interesting to friends and visitors. We need not enforce the necessity of perfect cleanliness in every respect.

"The withered leaf
Must be detached, where it strews the floor
Swept with a woman's neatness, breeding else
Contagion, and disseminating death.
Discharge but these kind offices, (and who
Would spare, that loves them, offices like these?)
Well they reward the toil. The sight is pleased;
The scent regaled; each odoriferous leaf,
Each opening blossom, freely breathes abroad
Its gratitude, and thanks him with its sweets."

With this extract we now conclude these "Notes on Greenhouse Plants," hoping that they may have been of benefit to some inexperienced lover of Flora.

Sept., 1852.

Our amateur readers, who have followed our valuable correspondent through his various articles, will appreciate fully the above *resumé* of the whole series. We need only add, that he is a thorough gardener in every department of his profession, and is abundantly able to impart his knowledge to others. We trust we may have another series of similar papers on the best hardy plants and flowers suitable for the open garden.—Ed.

ART. VI. *Floricultural and Botanical Notices of New and Beautiful Plants, figured in Foreign Periodicals; with descriptions of those introduced to, or originated in, American Collections.*

VICTORIA REGIA.—This magnificent aquatic has flowered in the collection of Mr. Feast, of Baltimore, and Mr. Buist, of Philadelphia. Five flowers had opened on Mr. Feast's plant, previous to September 14th, each of which had at

tracted great numbers of visitors. Mr. Feast's plant is remarkably vigorous, some of the leaves having measured six feet in diameter, and so stout as to hold up a man weighing 150 pounds!

Mr. Cope's plant is now in its decade. It has done blooming, and is perfecting a quantity of seed, from which plenty of plants will be produced to take the place of the present one.

We trust another year that we may have this superb lily in flower in our own collection. By the kindness of Mr. Cope, we were supplied with a plant; but it was so badly injured in its transportation here that it did not recover.

We hope Mr. Cope will add the new lily (*Nymphæa gigánteá*, described at 267) from Australia, of a deep purplish blue color, with flowers *a foot* in diameter, grown in the same tank with the *Victoria*; the contrast would be splendid. Seeds, we believe, are offered for sale in London at £1 each.

NEW TREE PEONIES, SENT HOME BY MR. FORTUNE.—The *Gardeners' Journal* copies our entire article on herbaceous peonies, in our late number, with some additional remarks on the importance of their introduction into English collections, where they are yet somewhat rare; and in conclusion annexes a list of the *Moutans*, as Dr. Lindley has named the tree kinds, which have been sent home from Canton by Mr. Fortune. They are in the collection of Messrs. Standish & Noble, and will soon be offered for sale. If they are all that the descriptions would represent, they will be great acquisitions to this magnificent tribe of shrubs, already rendered doubly valuable by the labors of the French and Belgian florists, who have produced some very remarkable seedlings. We shall look forward to the introduction of these new kinds into our gardens with great pleasure:—

"The brief descriptions given below are from the notes taken in Messrs. Standish & Noble's nursery, when the plants were in flower. As yet they have received no name. True, the Chinese names accompanied them; but, of course, it would be of little service to retain their nomenclature for every-day use in English gardens. We perceive, by a recent catalogue of the nurserymen above named, that they hope, in

the ensuing season, to publish full descriptions of all of them, with names by which they may be known and inquired for. They are certainly noble-looking plants when in flower, and, whether as regards the individual size of the blossoms, or the variety and richness of color, greatly exceed any hardy plants hitherto known in English gardens. We give numbers to the descriptions, corresponding with those attached to the plants in the nursery beds to which they refer—

1. Not very double ; rich purple.
2. Semi-double ; deep red, black base to the petals.
4. Anemone-flowered ; white ; beautiful compact flower.
5. Fine double rose ; compact and good.
6. Semi-double ; white, base of the petals stained with purple.
7. Pale lilac ; very fine.
8. Double ; rosy lilac, shaded ; very fine.
9. Deep rich purple ; a splendid flower.
10. Semi-double ; bright red.
11. Semi-double ; French white, base of the petals stained with purple.
12. Clean rich light purple ; fine.
13. Semi-double ; Tuscan rose color.
14. Very double ; salmon pink, shaded off to French white ; a magnificent flower.
15. Double ; primrose color ; very fine.
16. Semi-double ; bright red, almost scarlet ; very beautiful.
17. Resembles the last, but the flower is larger.
18. Double rose, shading off to lilac ; fine.
19. Semi-double ; clear white ; beautifully shaped ; base of the petals slightly stained with red.
20. Semi-double ; clear white ; larger than the last, and with a deep purple stain at the base of the petals.
21. Very fine white.
22. Fine double rose.
23. Rosy lilac, shaded ; fine.
24. Double purple ; very large.
25. Double ; very large ; deep red ; shape like a camellia.
26. Globosa—the largest, and most beautiful white.

27. Semi-double ; dark lilac ; base of the petals darker.
28. Double ; beautiful clear white ; Marattah-shaped ; very sweet scented.
29. Scarlet ; very large, distinct, and beautiful.
30. Peach color, shaded ; large, and very handsome.

From these brief descriptions it will be seen how various are these Moutans in the color and character of their flowers. Even in their young state they were very fine, and gave promise then, when the plants became older, to be even much larger. Their foliage, too, is very fine and deep colored, forming an excellent background to the glaring tints of the blossoms."

GARDENIA FORTUNI. This splendid variety has now been in bloom in our collection since the 1st of August, and is still showing buds. It is one of the finest plants, second only to the camellia, the flowers of which are nearly as large and double as the old double white, and deliciously fragrant ; the foliage large, glossy and superb. It is one of the most free growers, attaining the height of three feet in one year from a small plant. No collection should be without it.

185. IMPATIENS MACROPHYLLA Lard. LARGE-LEAVED CEYLON BALSAM. (*Balsamineæ*.) Ceylon.

A stove plant ; growing two feet high ; with reddish flowers ; appearing in spring ; increased by seeds ; cultivated in a light rich soil. *Bot. Mag.*, 1852, pl. 4662.

A new species of the Balsam, from Ceylon, more curious than beautiful. The leaves are in tufts at the tops of the branches, very large, with bright red petioles and midrib, and the flowers appear in clusters down the stem : they are of a "deep tawny orange color stained with red, and the numerous long bright red petioles, together with the ample foliage, render it a handsome plant." (*Bot. Mag.*, Aug.)

186. CEANO'THUS RIGIDUS Nutt. RIGID CEANOTHUS. (*Rhamneæ*.) California.

A hardy or half hardy shrub ; growing six feet high ; with blue flowers ; appearing in spring ; increased by layers ; grown in any good rich soil. *Bot. Mag.*, 1852, pl. 4684.

A beautiful evergreen shrub, originally found by Mr. Nuttall in California ; and also by Douglas, Hartweg, and others.

great to be acquired only by years of toil, study, experience and observation :—

Playing farmer is a very interesting but somewhat expensive luxury. It is not only a harmless but praiseworthy recreation to those who need not stop to count the cost. If it is a most effectual, it is also a refreshing and exemplary relief for a plethora of the pocket,—a bleeding useful to the patient, and of essential service to those to whom prudence dictates the propriety of obtaining experience vicariously. Unlike most methods of spending money for mere amusement, there is virtue in excess, and merit is due in direct ratio to the extent of outlay. The practitioner has little danger of injuring the constitution of his subject by repeated experiment. Mother earth is a tough old lady, and stands dosing and cutting up with admirable fortitude. Indeed, the more she gets, the better she looks, being decidedly in favor of the allopathic mode of treatment, and despising all infinitesimal application.

A gentleman farmer is usually understood, in this country, to mean one who possesses some capital in money, and very little, if any, in agricultural knowledge. He pays for his information as he gets it, and, if endowed with a moderate share of prudence, abstains from being lavish of his opinions before his practical hired laborers. When he assumes the direction of things, his orders have very much the appearance of a declaration of hostility against first principles, being often irreconcilable with each other, and somewhat at variance with the laws of nature. Like a newly made general at a militia muster, he is apt to get the rank and file into a hard knot without knowing by what earthly process he shall disentangle them, putting them as they were. He can sympathise with the sailor's embarrassment in ploughing, who managed tolerably well before the wind, but in going about missed stays, and involved the whole team in inextricable confusion. He fills his barn and corn-crib at an expense which may well entitle the contents of the latter to the graphic appellation of "golden grain." He talks learnedly of crops, and buys his vegetables; has the most wonderful cows, and often wants milk; is well supplied with newly invented churns, and is furnished with butter from a passing market wagon, although, occasionally, the product of his dairy enables him to exult over what seems to be a lump of white tallow. He is strong on poultry, mixing the ornamental with the useful, gives them crystal palaces with many curious devices to induce hens to become perpetual laying machines, and is lucky if he can eat a few of his own eggs at a dollar a piece, depending for his family supply on his poor neighbors, who can at any time sell him an apron-full hurriedly collected from old sheds and rickety haymows. He turns for relief to his fruit as a perennial source of consolation, there being at least one element of unadulterated enjoyment, demanding care from no hand but that of nature. Her operatives are at work for him. The borer riddles his apple trees; the curculio anticipates him in tasting his plums; his peach orchard gives him a crop or two and then surrenders to the leaf-curl or the yellows and becomes poor fire-wood; and after waiting for years for the rich harvest from his

dearly bought imported pear stocks, he finds dependent thereon a few gnarled, wrinkled, warty excrescences, being apparently a cross from a stringy turnip and a third rate potato.

The experiences of the tyro-horticulturist are not entirely exempt from similar degrees of perplexity sorely testing his philosophy. There is a charm in the close shaved lawn, in the well kept flower ground, and hard rolled pathway. The shady trees and fragrant shrubbery, the murmuring bees, the silvery brook, and the Claude landscape, with its setting sun, are things which make the city visitor turn with abhorrence to his stifled home, jammed with its fellows, looking alike uncomfortable, among kindred nuisances. He has not seen the means which bring about and preserve this beauty, and in delightful simplicity supposes that the whole is the result of a self-regulating machinery, that requires neither winding up nor repairing. The hoeings and scuffings, the prunings and weeding, the sweepings and rollings, and all the "hurry-skurry" of the morning, that the evening guest may find order and repose, are not fathomed by the plummet of his imagination. He has rural longings which must be gratified, and, after much seeking, he finds the paradise that is to embody his visions of earthly bliss. Some lurking doubt of his own qualifications suggests the expediency of a practical assistant, and he most effectually debars himself from obtaining information by choosing for his prime minister an imported underling, who, fresh from the drudgery of some long descended establishment of the old world, feels authorized to transplant himself to the new, a full blown gardener. Under the dictation of the latter, our beginner commences operations. He is told that every thing on the place is wrong; that a radical reform is necessary; and the mode of management practised on the Duke's estate, where his tormentor last bungled, is dinned into him, until he believes there can be no other model, and blindly submits to his "manifest destiny." A fellow, who, in his own country, would not have been trusted to trim a gooseberry bush, now slashes and saws in orchard and garden, as though he were still soaking in the humidity of his old home. The tree, which there moulds in eternal damp, gasping for a ray of sunshine, is here mercilessly laid open to the scorching sun of a New England summer, and to its winter's cold and storms. He knows nothing of climate beyond the fogs and drizzle of his native land. He, however, gains some knowledge in destroying, awakening gradually to the astounding fact that difference of position and circumstance requires corresponding management—and his education is paid for by his employer. The latter finds that the promised beauties, which were to supersede the old arrangement, are slow in coming. The lawn of velvet, the pride of English gardening, is merely a patch of brown stubble; the hedge becomes top-heavy, presenting below a series of archways for the accommodation of such animals as have no objection to stooping. He sees that in the race between flowers and weeds, the latter glory in an exuberance which defies competition, while the former are behind time, being "no where." He discovers that brooks perversely stop running in summer, when most wanted, that no skill in hydraulics can make a fountain play without water, and that the carefully constructed pond is

admirably adapted for depositing any thing that should be kept dry. Finally he begins to suspect that he himself is the most verdant thing on the place, and that for the purpose of carrying out the Duke's improvements it would be rather a convenience to have the Duke's income. How uncertain are human expectations! An advertisement proclaims that a valuable and highly finished estate is for sale, the red flag denotes the locality, and the auctioneer knocks it off at the cost of the additions, generously throwing in the original property. This picture is not intended to dishearten the aspirant for rural life; it is merely an endeavor to impress upon him the conviction, that in this, as in all other pursuits, it is not only necessary to be in earnest, but to take that interest which is not overcome by opposition and petty annoyances. It would be bad policy to keep those away who pioneer improvement, and aid a good cause even by their failure. In storming a fortress, it is poor generalship to discourage the forlorn hope.

One more extract and we must close:—

There is a custom, on the increase, in our country or suburban residences, to leave every thing to others, and in humble but mistaken imitation of the supposed indifference in the lordly establishments of Europe, to glory in an ignorance in which there is no affectation, but which sits naturally, and requires little effort to reveal itself. The means by which order and harmony are created, are considered too menial for the etherealized respectability of the parlor, and even the results are disowned in public, as too trivial for direct acknowledgment. The periodical exhibitions of horticultural societies, in presenting the products of the garden and greenhouse, indicate that the proprietor, in the day of battle, is either ashamed to head his own regiment, or is desirous to proclaim to the world that he can afford to do so by procuration. He is satisfied that his name appears in connection with, and secondary to, his gardener. It is an evidence of wealth and patronage, and his pride is gratified in the reflected lustre. The firm has the natural consequence of such associations, the sleeping partner taking what he is permitted to receive, and the active manager usually monopolizing both the reputation and the profits.

In this practical country, no man should be above any occupation. We are eminently a working people, and he who professes to follow what he will not take pains to understand, or treats as beneath his notice, had better give up the business. He has not been preordained for the calling, and should leave the field to more worthy laborers. There are vexations and hindrances in all pursuits. If "the course of true love never did run smooth," neither did the course of any thing else, under the sun, that was worth running. The instrumentalities which work out results, either of beauty or utility, must be grasped boldly and cheerfully. The effect will come in its good time, but the longing for it should not disturb the operations which influence it. Nor should they repel, because there may seem to be no affinity between the wearisome and homely details, and the perfection which they produce. The beautiful fabrications of the loom, born amidst

the incessant clatter of stunning machinery, assume very doleful appearances in the steaming room and dyeing tub, before their rare combination of colors is offered on the counter. Every article of taste has gone through an ordeal, which to fastidious nerves would not seem conducive to elegance. There must be much drenching of water, much burning of tobacco, and sprinkling of sulphur, many a fight with mildew and red spider, that the dainty step may thread its way among the healthy growth of blooming exotics, and taper fingers pluck fruit and flower from vine and plant, whose congenial home is in the luxuriance and under the glowing sun of the tropics.

There is a most expressive word, but of such doubtful gentility, that dictionaries cannot mention it without adding (low) in parenthesis. This much used word, often unjustly insulted with the epithet of vulgar, is—*HUMBUG*. It is of extraordinary quality; the mighty symbol of every party; a shibboleth, which all worship though none acknowledge. If it is not blazoned in golden letters, as the presiding genius of popular assemblies, still it is present, hovering over chairman and speaker, and spreading its magical charm through the thickest array of political resolutions. Though not admissible in the highest flights of oratory, or the more refined displays of conversation, yet it is often there, reigning supreme. It enters the abodes of private life, and becomes the fireside deity where fashion sits exultant in her elevation, and the humble imitator is beggared in the desperate effort to attain it. In truth, it is everywhere; strange as it may seem in an age of common sense, and in a country of utilitarian usages.

Ridicule will often effect more than the strongest appeals to reason or common sense, and we trust his hit at the custom he alludes to will have some effect in rendering it "more honored in the breach than the observance."

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

SALVIA GESNERIFLORA.—The fine long spikes of brilliant scarlet Gesnera-like flowers which this Sage produces from every properly ripened shoot render it very striking, especially during the winter and spring months. It may be easily grown to a large size in one season; and I doubt whether we possess a plant requiring so little skill for its successful cultivation that is equally beautiful. It is not, however, very generally met with, which may possibly be attributed to the fact that it requires to be grown to the desired size, and wintered in that state to have it bloom in anything like perfection; if this is a fault, however, it is one which pertains to the majority of our most esteemed greenhouse plants.

Stunted bits of the young wood are more suitable for cuttings than healthy fast growing pieces, as the former root more certainly, and form closer jointed specimens than the latter, and generally flower more freely. Plant them in light sandy soil, cover with a bell glass, and place them in a gentle bottom-heat, where in a few weeks they will be ready for potting off. Place them in a shady close frame after potting, until they have become well established; and stop the principal shoots in order to induce a bushy habit of growth. A situation near the glass where they can be protected from frost and damp will suit during winter.

Where it is desired to have large specimens in 15-inch pots, the plants should be in 7-inch pots, and well established before winter; and should be placed in a close frame, with a moist growing temperature from 40° to 50° early in spring; but if moderate-sized plants only are required, the warmest end of the greenhouse will advance them sufficiently fast. Keep them well supplied with pot-room, and persevere in stopping and pegging out the shoots. They should be ready for shifting into their flowering pots in June, and when established in these they will be benefited by being placed in an airy situation out of doors, where they will be freely exposed to the sun's rays. This will greatly assist in securing short jointed thoroughly-ripened wood, which will flower more satisfactorily in spring than if the last growth were made under glass in a moist atmosphere, where it would be improperly matured. Manure-water in a clear state may be given two or three times a week during the growing season with advantage; but this should be discontinued when the object is to ripen the wood. Some attention will be requisite to secure handsomely-formed specimens; the shoots should be pegged out in spring, and stopped, with a view to induce them to make a compact growth. They must not be stopped later than July, otherwise the flower spikes will be small, and the plants will not present the splendid appearance which they do when properly prepared. A cool, light situation, free from frost, with a very sparing supply of water, merely enough to keep the plants from flagging, and a free circulation of air on mild days during winter, will check all tendency to growth, and suit better than kinder treatment at this season.

After Christmas the plants will be easily induced to bloom, by being placed in a temperature of about 50°, and liberally supplied with water at the root; or they may be placed in the closest part of the greenhouse, where they will come into flower in March, and will form brilliant objects for some six weeks. While in flower, water with manure-water, and admit air freely on mild days, and sufficient at all times to prevent injury from damp. When the beauty of the plants is over, they may be closely cut back, and placed in a cool part of the house, until they can be set out of doors, and, with a liberal supply of manure-water and a moderate shift, they will form useful specimens for blooming next season; but young plants are generally preferable, and if there is a stock of these, the old ones may be thrown to the rubbish heap.

A strong rich soil suits this *Salvia* well, such as one-half mellow fibry loam, one-fourth rotted leaves, and one-fourth thoroughly decayed cow-

dung; but it is not very particular in this respect, and will grow in any rich porous soil. If dung is used, pass it through a quarter-inch mesh sieve, and mix it with its own bulk of sand; and before adding to it the compost, rub it through the hands, when the sand will destroy any small worms that may have passed through the sieve.—(*Gard. Chron.*, 1852, p. 548.)

JAPAN LILIES.—The different varieties of *Lilium lancifolium*, which are now nearly everywhere in full bloom, must certainly be classed amongst the most ornamental of autumn-flowering plants, and they are so easily managed, that almost anybody can grow them. The only accommodation they require is a greenhouse or cold frame, where their early growth can be protected from nipping frosts, and cold cutting winds in spring, and security from rain and damp while in flower. Persons commencing their culture should procure bulbs from the middle of November to January, at which season they are dormant, and not liable to receive injury from travelling. If they arrive in pots in which they have made their season's growth, they should be shaken out, the decayed roots removed, and they should be re-potted in fresh soil. The size of pot to be used, and the number of bulbs to be placed in each, must depend upon the size of specimen desired. The pots at this shift need not be larger than may be required to permit the bulbs to stand about two inches apart; these will occupy less space than if the bulbs were put at once into the pot in which they are to flower, and it will be easy to re-pot before the roots become matted, or the plants sustain injury, for want of pot room. Set them in a cool airy situation, and give them very little water until the crowns appear above the soil. If they are wanted to flower in succession, now is the time to provide for that, and with sufficient stock it is easy to have a constant supply of blossom from the middle of July till late in October. To effect this, place a portion of the plants in the closest end of the greenhouse, or where the temperature may average about 45° in February, or early in March, and give them a moderate supply of water. A second lot may be similarly treated in April, and a third kept as cool and dry as possible, with a view to retard their growth; and they should be placed in a sunny situation out of doors as soon as the weather becomes mild and settled. To have the first lot in flower in July, they will probably require to be kept under glass, and to be treated rather close after the flower buds are formed, but this will greatly depend upon circumstances, and will be best learned by a season's practice. When the bulbs commence growing the pots should be placed near the glass, and plenty of air admitted to secure dwarf stocky growth—for it is important to have the leaves thickly set on the base of the stem, because, from the axils of these, small bulbs will be produced, if a portion of the stem is covered with soil at the final potting. The roots will have made some progress before the bulbs start into growth; and as these when allowed to become matted in small pots never start vigorously into fresh soil, the plants should be shifted into their flowering pots before the stems are more than a foot high. If the bulbs were merely covered with soil at the first potting, they should be placed afterwards three inches deeper in their pots, which serves two purposes, viz., the encouraging the emission of roots from the base of the stems.

and the formation of small bulbs at the axils of the leaves covered with soil. A certain means of increase will thus be provided, and the stem roots, upon which the plants in their advanced state mainly depend for support, will be encouraged. The proper size of pot will depend upon the number and strength of the bulbs; three full grown healthy bulbs will require 15-inch pots, and one strong bulb, for its healthy development, will want a 12-inch pot. Water cautiously after shifting till the roots have laid hold of the fresh soil, but when the pots are moderately filled with fibres a liberal supply will be required, and manure-water may be given twice or thrice a week with advantage. All the plants except those desired to bloom early may be placed in a warm sheltered situation out of doors towards the end of May, and these should be carefully tied to stakes, to prevent any accident from wind or other causes. While in flower a situation slightly shaded from the forenoon sun, with an airy rather dry atmosphere, should be provided, as the flowers are very liable to become discolored if exposed to rain or damp, and soon fade. When the beauty of the plants is over remove them to a rather warm dry situation, and give very little more water to the soil. A place against a south wall, where they will be exposed to the sun and protected from rain, will answer for plants ripening early, but those that flower late had better be kept under glass, as it will hardly be possible to get the bulbs properly matured otherwise, and unless this is effected they will neither grow nor flower in full vigor next season. Before storing them for the winter, it will be advisable to shake the soil from the bulbs and re-pot them in smaller pots, but defer this until the roots are mostly decayed. The small offsets may be potted half-a-dozen together in 5-inch pots, as, if left in the specimen pots, they are liable to be overgrown and injured by their stronger neighbors. Turfy sandy loam and peat in about equal proportions, with a liberal sprinkling of sharp sand, will suit perfectly, although it is asserted by some growers that the flowers are higher colored when the plants are grown in peat alone.—(*Gard. Chron.*, 1852, p. 551.)

EVIL EFFECTS OF OVER-CROWDING PLANTS, DURING WINTER.—Among the more formidable difficulties which a gardener has to contend against, and which he is moreover expected to surmount, is that of accommodating, in winter especially, a large number of plants in a limited amount of space. To this perplexity not only those who conduct minor establishments are subjected, but the evil is equally apparent in the majority of gardens throughout the country. Now, although it is well known that if plants have been thoroughly prepared during the summer season, they possess wonderful powers of endurance when submitted to the storing process in the winter—and it is often amusing to witness the various expedients adopted to economise the space in structures devoted to their reception—it is equally certain that the indiscriminate crowding of plants we so often meet with is at once a source of annoyance and disappointment, both to the gardener and his employer.

We have often been surprised at witnessing at the various exhibitions such fine examples of plant growing, produced, as we know, under many and weighty disadvantages, not the least of which is the want of a proper

degree of space in the structures in which they are grown. And it is not to discourage any attempt at economy that we now express our opinions on the subject, but because where it is carried to excess, as it often is, the effects are at once inimical to all parties concerned—the labors of the gardener are doubled, the result he arrives at unsatisfactory, and the proprietor receives a less amount of gratification from his plants than he otherwise might. There can, we think, be no doubt that the cause of this overcrowding system arises in most cases from the attempt to do too much—in the wish to grow five hundred plants where the accommodation is in reality only sufficient for one hundred. Nor is this all. The kinds of plants are so diversified, that, independently of their being spoilt for want of proper room for development, the circumstances under which they exist are, though perhaps favorable to a few, directly opposed to the many. It is no uncommon circumstance to find representatives of every oppositely constituted plant jumbled indiscriminately together into one small “greenhouse,” constituting a very *olla podrida* of vegetation—*multum in parvo* with a vengeance. The results are easily arrived at from induction, even if they were not so physically apparent. In physical as in mental attainments, he that would accomplish too much generally attains nothing, while the direct application of the necessary means to a definite purpose always leads success in its train.

But these remarks are the more especially intended to apply to the winter storing of plants, and the present season is an appropriate one for introducing them. In all establishments there are amongst the migratory portion, i. e., such as are periodically removed from the greenhouses to the open air in summer, and *vice versâ* in the autumn, a goodly portion of antique specimens of no beauty and possessing no degree of interest. They are year after year suffered to occupy time and space, to the material detriment of others having claims for all the care that can be bestowed upon them, and of which they are more than worthy. We know of many gardens where huge plants—of kinds long since justly discarded from all modern collections—are allowed seriously to encroach upon the space available for storing plants in winter, simply on the plea—“We have had them so long.” Now, we have no desire to discard old friends, far from it; between that and the case for which we are arguing there is no analogy. And as one mode of making the most of limited space available for plants in winter, we say—immediately discard all useless or uninteresting specimens.

Yet, independently of thus encroaching on space, we have scarcely found an exception—especially among amateurs or gentlemen possessing small places in the vicinity of towns—where the overcrowding system is carried to its utmost verge, frustrating all hopes of obtaining really creditable plants, except perhaps for a few favored kinds, which are allowed to occupy the best situations. Such collections are, for the most part, subject to all the ill effects of damp and its attendants, mildew and rottenness. The free circulation of air becomes impossible; weakness and etiolation are sure to result. Half-ripened shoots have no chance of elaborating and concentrating their fluids; flowers are scanty or ill-formed as an inevitable conse-

quence. And from these circumstances arise the oft-repeated complaint—"The winter has played sad havoc among my plants; not the frost, but the damp. Even the tops of the geraniums went black from the effects of it, and many of them have rotten patches in the leaves. The want of sun has done the mischief."

We are all apt to attribute mishaps to causes out of the pale of our own control, and to comfort ourselves with the assurance that we have no share in the disasters. But there can be no doubt that the injuries that plants receive in winter from the effects of damp and the want of air arises from circumstances immediately under the cultivator's control, and evil of overcrowding is among the number.—(*Gard. Journ.*, 1852, p. 642.)

ART. II. *Horticultural Societies.*

HARTFORD COUNTY HORTICULTURAL SOCIETY.—Dear Sir: On Friday evening, October 1st, the Hartford County Horticultural Society closed its exhibitions for the season, by an exhibition and festival at Gilman's saloon. It was open only to members and their families, but the well filled hall testified to the interest that is felt in Horticulture in this place. Two tables, extending nearly the whole length of the room, were loaded with the choicest specimens of fruit, and were handsomely decorated with flowers. At the west end was a table with refreshments, consisting of pears, peaches, plums, grapes, cake, ice cream, &c., amply sufficient for the whole company, and all were well satisfied. Addresses were made by Mr. Wm. W. Turner, the President, Messrs. Alfred Smith, Erastus Smith, and John M. Niles. A glee club added much to the entertainment of the evening. The whole affair passed off admirably, and very much to the satisfaction of all who were present.

Our Society has been in existence but four years. We have held exhibitions on every Saturday afternoon, during the season of fruit, which have been well attended, and have, we think, excited in the public an increased love for Horticulture. The material in this region is abundant, and there is every encouragement for future operations.

As a part of the Horticultural news of the day, I send you the above.—Yours, &c., G. W. R.

BUFFALO HORTICULTURAL SOCIETY.—*July 20th.* The President in the chair:

Exhibited by Warren Granger, cherries, Bigarreau. By Dr. S. Manley and Brother, cherries, Bigarreau, Napoleon Bigarreau, Late Duke, Florence; raspberries, Fastolf, Red Antwerp, Franconia. Charles Taintor, cherries, Bigarreau, Napoleon Bigarreau, White Bigarreau, Black Tartarian, Elton, Davenport's Early, American Amber, Black Heart, Tradescant's Black Heart, Belle de Choisy; currants, Red Dutch, White Dutch, Common Red. Mason & Lovering, cherries, Bigarreau, Plumstone Morello, Black

Mazzard; currants, Champagne; raspberries, Red Antwerp; beans, Early China, Early Longpod; Petunias, 12 var., Double Hollyhocks, 8 var., Seedling Verbena, 2 bouquets of greenhouse flowers. J. C. Warriner, currants, White Dutch. Miss Louisa A. Pratt, gooseberries.

Lewis Eaton, cherries, Bigarreau, White Bigarreau, Napoleon Bigarreau, Bigarreau de Lyon, Black Tartarean, Black Eagle, Black Heart, Mayduke, Reine Hortense, Late Duke, Elton, Downer's Late, American Amber, English Gaskin, Tradescant's Black Heart, White Waterloo, 3 nameless var.; currants, White Dutch, Red Dutch, May's Victoria; beans, Early Six Weeks. Farnum & Wilcox, raspberries, Red Antwerp. W. R. Coppock, cherries, Bigarreau, White Bigarreau, Napoleon Bigarreau, Tradescant's Black Heart, White Waterloo, Elton, Black Tartarian, Sparhawk's Honey, Black Heart; gooseberries, Crown Bob, Roaring Lion, Whitesmith. Mrs. L. Eaton, roses, Baltimore Belle, Queen of the Prairies, Hermosa, Augustine Mouchelet, Perpetual Pink; Double Hollyhocks, 7 var.; carnations, 8 var.

The Fruit Committee reported the following prizes for fruit, shown at the last meeting:—

For the best 3 var. of strawberries, Hovey's Seedling, Boston Pine, and Large Early Scarlet, to W. R. Coppock, \$2.

For the best 1 var. Burr's New Pine, to W. R. Coppock, \$1.

The following prizes were awarded at this meeting:—

For the best 3 var. of cherries, for Bigarreau, Black Tartarian, and Elton, to Charles Taintor, \$2.

For the best 1 var., for Bigarreau, to Charles Taintor, \$1.

For the best 3 var. raspberries, Fastolff, Red Antwerp, and Franconia, to D. S. Manley & Brother, \$2.

For the best 1 var. Red Antwerp, to Farnum & Wilcox, \$1.

For the best 1 var. currants, White Dutch, J. C. Warriner, \$1.

For the best 3 var. currants, White Dutch, Red Dutch, and May's Victoria, to L. Eaton, \$1.

For the best 1 var. gooseberries, to Miss Louisa A. Pratt, \$1.

For the best 6 var. Double Hollyhocks, to Mason & Lovering, \$1.

For the best 6 var. carnations, to Mrs. L. Eaton, \$1.

For the best 12 var. petunias, to Mason & Lovering, \$1.

For the best 2 quarts beans, to L. Eaton, \$1.

Adjourned.

August 3d.—The President in the chair.

Exhibited by Mason & Lovering, verbenas, 13 var., and onions. Warren Granger, onions. L. Eaton, cherries, Archduke, Late Duke, Royal Duke, Morello, Black Tartarian, Napoleon Bigarreau, Tradescant's Black Heart, Belle Magnifique; Flemish currants, May's Victoria; corn, Early Sioux; onions. A. Bryant & Son, currants, Dutch, White Dutch, Champagne, Black Naples, Black English. Mrs. L. Eaton, roses, Reine de St. Cyr, La. Gracieuse; verbenas, 2 var.

The following prizes were awarded:—

For the best 12 var. verbenas, to Mason & Lovering, \$1.

For the best 12 ears corn, to Lewis Eaton, \$1.

For the best 12 onions, to Warren Granger, \$1.

Adjourned.

August 17th.—Vice-President Granger in the chair.

Exhibited by Lewis Eaton, cherries, Belle Magnifique, Arch Duke, Late Duke; pears, Muscat Robert, Rousselet Hative; sweet corn. D. S. Manley & Brother, pears, Jargonelle, Rostiezer, Dearborn's Seedling, Blood-good (?), (all unripe); apples, Yellow Harvest, Large Early Bough, Golden Sweeting, Duchess of Oldenburgh; phloxes, 6 var.; Double Balsams, 6 var. Mrs. L. Eaton, Double Balsams, 6 var. Mason & Lovering, Gladiolus, 2 var.; Double Balsams, 6 var.

The following prizes were awarded:—

For the best 1 var. Summer pears, Muscat Robert, L. Eaton, \$2.

For the best 6 var. phloxes, to Manley & Brother, \$1.

For the best 6 var. Double Balsams, Mason & Lovering, \$1.

For the best 12 ears sweet corn, L. Eaton, \$1.

After appointing a Committee of Arrangements for the Annual Exhibition, Delegates were appointed to represent the Society at the Annual Exhibitions of the New York, Massachusetts, and Pennsylvania Horticultural Societies, the New York, Michigan, Ohio, Wisconsin, and Canada Agricultural Societies, and the American Pomological Congress, and the President was empowered to appoint additional Delegates, if required; after which the Society adjourned.—JNO. B. EATON, *Recording Secretary*.

ART. III. *Massachusetts Horticultural Society.*

Friday, September 23d.—The premiums for dahlias took place to-day, by agreement of the Chairman of the Committee of Arrangements, and principal exhibitors, at the tent in the public garden. Owing to the quantity of flowers which had been cut for the general show, the display was not so large as usual, but the specimens were many of them unusually fine. The principal exhibitors were J. Breck & Son, P. Barnes, Hovey & Co., J. Nugent, and J. Hyde & Son. Messrs. Hovey & Co.'s stand for the premier prize contained some superb specimens of the newest varieties, but in consequence of two or three blooms showing an eye, the prize was not awarded. The following is the list of the awards:—

PREMIUMS AWARDED FOR DAHLIAS.

SPECIMEN BLOOM.—For the best, to J. Hyde & Son, for Mr. Seldo, \$3.

VARIOUS COLORS.—Best Yellow, to J. Nugent, for Cleopatra, \$1. Best

White, to J. Nugent, for Mont Blanc, \$1. Best Dark, to Hovey & Co.,

for Admiral Stopford, \$1. Best Striped, to J. Hyde & Son, for Ansell's

Unique, \$1. Best Scarlet, to J. Nugent, for Latour d'Auvergne, \$1.

TWENTY-FOUR DISSIMILAR BLOOMS.—For the best, to Hovey & Co.,

§7; for Florence Dombey, Marchioness of Cornwallis, Gaiety, Picotee, Mont Blanc, Elizabeth, Charles Perry, Mimosa, Admiral, Lady Cooper, Constantia, Miss Hansard, Queen of the French, Sunbeam, Gem, Yellow Standard, Mrs. Shaw Lefever, Miss Crompton, La Rosiere, Discount, Victoria Regina, Golden Souvenir, El Dorado, and Marquis of Aylesbury.

EIGHTEEN DISSIMILAR BLOOMS.—For the best, to James Nugent, §6; for Cleopatra, Miss Vyse, Great Mogul, Mont Blanc, La Polka, Fire King, Ansell's Unique, Mr. Seldon, Marchioness of Cornwallis, Latour d'Auvergne, Picotee, Sir Frederick Johnson, Constantia, El Dorado, Lady Cooper, Lady Sale, Caleb Cope, and Duke of Cambridge.

For the second best, to Parker Barnes, §4; for Mr. Seldon, Mont Blanc, Antagonist, Faime, Champion, Miss Vyse, Joshua Longstreth, Pauline, Marchioness of Cornwallis, Lady of the Lake, Admiral, Duke of Cambridge, Queen of the East, Beauty of Hastings, Arethusa, King of the West, Madame Zahler, and Princess Radzville.

TWELVE DISSIMILAR BLOOMS.—For the best, to James Nugent, §5; for Picotee, Constantia, Mr. Seldon, Miss Vyse, Cleopatra, Mont Blanc, Great Mogul, Fire King, Caleb Cope, Latour d'Auvergne, La Polka, and Sir F. Johnson.

For the second best, to Parker Barnes, §3; for Arethusa, Miss Vyse, Mr. Seldon, Marchioness of Cornwallis, Admiral, Madame Zahler, Gracia, Mt. Blanc, Constantia, Buffalo Girl, Beauty of Hastings, and Champion.

Saturday, 25th.—An adjourned meeting of the Society was held to-day,—the President in the chair.

No business of importance was transacted, and the meeting dissolved.

October 1.—The Annual Meeting of the Society for the choice of officers, was held to-day,—the President in the chair. The polls remained open half an hour, after which the following officers were declared elected:—

President—Joseph S. Cabot.

Vice Presidents—Benj. V. French, Cheever Newhall, Edward M. Richards, Josiah Stickney.

Treasurer—William R. Austin.

Corresponding Secretary—Eben. Wight.

Recording Secretary—W. C. Strong.

Professor of Botany and Vegetable Physiology—John Lewis Russell.

Professor of Entomology—T. W. Harris.

Professor of Horticultural Chemistry—E. N. Horsford.

STANDING COMMITTEES.

On Fruits—E. Wight, Chairman; J. Lovett, C. M. Hovey, W. R. Austin, F. C. Winship, W. C. Strong, Joseph Breck.

On Flowers—J. Breck, Chairman; A. McLellan, E. A. Story, T. Page, A. Bowditch, G. Everts, F. Burr.

On Vegetables—H. Bradlee, Chairman; D. T. Curtis, A. C. Bowditch, G. E. White, A. W. Stetson.

On Library—C. M. Hovey, Chairman; H. W. Dutton, W. R. King, A. R. Pope, R. M. Copeland.

On Synonyms of Fruit—M. P. Wilder, Chairman; P. B. Hovey, R. Manning, S. Walker, E. Wight.

Executive Committee—J. S. Cabot, Chairman; W. R. Austin, M. P. Wilder, S. Walker, P. B. Hovey.

For establishing Premiums—E. Wight, Chairman; J. Breck, H. Bradlee, Jos. Lovett, P. B. Hovey.

On Finance—M. P. Wilder, Chairman; J. Stickney, O. Johnson.

Of Publication—E. Wight, Chairman; J. Lovett, Jos. Breck, H. Bradlee, C. M. Hovey, W. C. Strong, F. L. Winship.

On Gardens—J. S. Cabot, Chairman; E. Wight, J. Lovett, S. Walker, J. F. Allen.

Exhibited.—**FLOWERS:** From J. Breck & Son, fine dahlias. From J. Nugent, fine display of dahlias, cut flowers, and two bouquets. From Miss Russell, a basket of flowers. From P. Barnes, fine pansies, dahlias, and a variety of cut flowers.

FRUITS: From A. D. Webber, melons—Beechwood. From G. Walsh, grapes—Isabella and Chasselas; pears—Bartlett, St. Ghislain. From J. Hyde & Son, pears—Collins (new.) From B. Harrington, apples—Porter, Bellflower, Ramshorn, Fall Sweet; peaches—Crawford's Late. From Hovey & Co., grapes—Clinton and Diana; pears—Belle Lucrative, Swan's Orange, Bonne des Zees, Henkel, Doyenné Boussock. From Mrs. F. B. Durfee, grapes—3 var., very fine. From J. Cass, (Boston,) grapes—Isabella. From M. P. Wilder, pears—Walker, Paradise d'Automne, Doyenné Boussock, Triomphe de Jodoigne, Adele St. Denis, Bordenave, (Smith's.) From A. W. Stetson, pears—Beurré Diel, very fine. From R. M. Copeland, grapes—Black Hamburg, open culture, fine, Isabella. From K. Bailey, grapes—Isabella, fine, Sweetwater. From W. C. Strong, grapes—White Gascoigne, Black Frontignan, White do., Black Hamburg, White Chasselas, St. Peters, Muscat of Alexandria, Damascus. From A. Lackey, Marblehead—pears, St. Ghislain, grown on English Thorn, very fine, Henry IV, Brown Beurré (?); plums—Reine de Claude Bavay. From A. Bowditch, peaches—Heath; pears—Louise Boane of Jersey, Seckel. From L. J. Bradish, pears—Seckel. From F. Dana, pears—Rousselet de Rheims. From E. W. Bull, Concord, grapes—Seedling. From H. Vandine, plums—Roe's Autumn Gage, Coe's Golden Drop, Lombard; pears—Summer Franc Real, Buffum, Bartlett, St. Ghislain, Louise Bonne of Jersey, Flemish Beauty, Marie Louise; quinces—Apple. From J. S. Sleeper, peaches—Heath, Crawford's Late. From P. W. Pierce, pears—Napoleon, Long Green of Autumn, 2 for a name.

From J. Stickney, pears—Urbaniste, Flemish Beauty, Louise Bonne of Jersey; apples—Gravenstein. From J. Richardson, Jr., Greenfield, pears—Bartlett, Duchesse, Louise Bonne of Jersey, St. Michael; apples—Porter, Red and Green Sweet. From J. Hovey, English walnuts. From J. F. Allen, pears—Seckel; grapes—Black Prince, Golden Chasselas, Black Hamburg; fig—Black Brunswick. From F. Tudor, Nahant, apples—

Minister, Hubbardston Nonsuch; pears—Beurré Rosc, Brown Beurré, Wilmington Baking, Columbia, Glout Morceau, Easter Beurré, Wilkinson, St. Germain, Duchesse, Beurré Diel, Passe Colmar, Urbaniste, Beurré d'Angleterre, Beurré Montigeron, Bezi de la Motte, St. Michael, Louise Bonne of Jersey, Swan's Orange, Napoleon, F. de Wirtemberg.

The Committee cannot fail to award praise for the exhibition of this day, it being one of the finest ever placed upon the tables of the Society.

The Society can but feel indebted to Mr. Tudor for his superior display of Fruits, so finely grown and well colored, and in all respects one of the handsomest exhibitions ever offered by any amateur.

Fruits tested.—From Hovey & Co., pears—Beurré Sterkman, fine, Bonne des Zees, very fine, Jersey Gratioli, very fine, Styrian, Capsheaf, Beurré Montigeron, Oswego Beurré, Beurré Merod, excellent, Adams, superior, Sheldon, superior, Rousselet de Meester, fine, Swan's Orange; grapes—Diana, very fine. From M. P. Wilder, pears—La Herard, Beurré Sterkman, fine. From J. Hyde & Son, pears—Collins, excellent. From E. W. Bull, Concord, grapes—Seedling, excellent.

October 9. Exhibited.—**FLOWERS:** From Hovey & Co., J. Breck & Son, and L. Davenport, superb dahlias. From J. Nugent, fine dahlias, cut flowers, and two bouquets. From T. Page, three bouquets. From W. Kendrick, a basket of flowers, dahlias, &c. From P. Barnes, fine dahlias and cut flowers. From K. Bailey, dahlias and other cut flowers. From C. Copeland, fine dahlias and a great variety of beautiful roses.

From F. Cunningham, a specimen of *Phaseolus caracalla*, or Snail Flower, curious and beautiful.

The display of dahlias was the best of the season, there being many beautiful and perfect specimens from most of the exhibitors. As there was but part of the money devoted to dahlias awarded at the Annual Exhibition, the Committee appropriated the balance in gratuities to the following competitors:

AWARD OF PREMIUMS AND GRATUITIES.

DAHLIAS.—To James Nugent, for the best 12 flowers, \$5.

To Hovey & Co., second best, \$4.

To Parker Barnes, third best, \$3.

To Lewis Davenport, fourth best, \$2.

To Charles Copeland, fifth best, \$1.

GRATUITY.—To C. Copeland, for a fine display of roses, \$2.

FRUITS: From J. W. Foster, plums—Reine Claude de Bavay; quinces—Portugal; peaches—Blood. From P. Barnes, peaches from the Double Flowering peach; plums from St. John, N. B. From A. W. Stetson, grapes—Sweetwater, Black Hamburg; pears—Beurré Diel. From A. W. Haven, Portsmouth, pears—Flemish Beauty, very fine. From J. A. Stetson, Quincy, apples, for a name, grown on Paradise stock; pears—Buffum, very fine, Stevens's Genesee, Payency; apples, for a name. From B. Harrington, peaches—Crawford's Late; apples—Porter, Ramshorn, River, Bellflower, Fall Sweet, Baldwin. From L. J. Bradish, Jamaica Plain, pears—

Urbaniste, superior. From J. W. Newhall, Saugus, one apple, weighing 21½ oz. From A. Holbrook, West Roxbury, apples—Hubbardston Nonsuch, very fine. From J. Roberts, Chelsea, pears—Van Mons Leon le Clerc, very fine. From B. Hedge, Plymouth, pears—3 dishes Seckel, of superior quality.

From Hovey & Co., pears—Bonne de Zees, Beurré Sterkman, Doyenné Boussock. From G. Wash, pears; apple, for a name. From J. Dane, pears—Beurré Diel, Seckel, Van Mons Leon le Clerc. From J. Eldridge, quinces—Orange, superior. From O. Johnson, apples—Seedling. From R. M. Copeland, peaches—Seedling. From J. S. Sleeper, pears—Buffum, extra, superior. From Josiah Coolidge, pears—Louise Bonne of Jersey. From E. Brown, pears—Roi de Wurtemberg. From H. Vandine, pears—Flemish Beauty, Seckel, Marie Louise, Buffum, Dix, Napoleon, Andrews. From C. E. Grant, pears, for a name; grapes—Isabella, very fine; quinces—Orange, superior, and finely ripened. From J. Cass, grapes—Isabella, fine. From E. H. Hitchings, grapes—Diana, Chasselas. From Diana Crehore, grapes—Diana, very fine. From J. P. Preston, grapes—Black Hamburg, open culture.

From S. Downer, Jr., pears—Heathcot, Calebasse Bosc, Urbaniste, Louise Bonne of Jersey, Gansell's Bergamot, Flemish Beauty, Napoleon, Roi de Wurtemberg; also, Fameuse apples. From J. Nugent, grapes—Black Hamburg, Chasselas. From M. S. Cole, apples—Mother, Red Russet. From J. F. Allen, pears—Ropes, Seckel, Urbaniste; grapes—Golden Chasselas, Poiteau Noir; nectarines—Golden. From F. Cleaves, plums—Golden Drop, superior; pears—Beurré Bosc, Marie Louise, Paradise of Automne, Urbaniste. From K. Bailey, Charlestown, grapes—Isabella, very fine. From J. L. Jones, Chelsea, pears—Louise Bonne of Jersey, Easter Beurré, superior, Duchesse. From G. H. Haseltine, grapes—Black Hamburg, very fine, White Nice, Constantia. From E. Wight, apples—Gloria Mundi; pears, Beurré Diel.

Fruits tested.—From J. A. Stetson, Payency pears, good.

From Hovey & Co., pears, viz., Vesouziere, very good; Grand Soliel, fine; Dunmore, fine; Adele de St. Denis, superior; Poire d'Albret, fine; Beurré Sterkman, very fine.

From Mrs. Crehore, Diana grapes, fine. From C. E. Grant, Isabella grapes, excellent.

October 16th.—Exhibited. FLOWERS: From Dennis Murray, gardener, a beautiful collection of dried Ferns; the specimens were finely preserved. Of Ferns, 25 species; Lycopodium, 7 species; 4 new Mosses, and 2 new species of Medicago. From Joseph Breck & Son, a fine display of Dahlias, filling one of the round stands. From B. V. French, fine Dahlias, Antirrhinums, Asters, and other cut flowers. From James Nugent, fine Dahlias, and two bouquets. From Parker Barnes, Dahlias and other cut flowers. From Wm. Kenrick, by Miss Russell, a basket of flowers.

FRUITS: From J. A. Stetson, White Doyenné, Beurré of Anjou, both superior, and Brown Beurré pears. From B. Harrington, Ramshorn apples, and White Doyenné pears. From A. W. Stetson, very fine Beurré Diel

pears. From H. Dutch, pears from the Eastham tree, 200 years old. From J. N. Bang, 3 var. of pears. From D. D. Leeds, very fine Orange quinces. From W. H. Blodgett, very fine Orange quinces. From F. Dana, 3 var. of pears, fine. Pears without name, from H. Hills. From Geo. Walsh, 4 var. of pears.

From Hovey & Co., Beurré Bosc, White Doyenné, Vesouziere, St. Michael Archangel, Van Mons Leon le Clerc, Swan's Orange, (superior,) Louise Bonne of Jersey, Urbaniste, Beurré Diel, (fine,) and Duchess of Angouleme. From G. Prichard, 3 var. grapes, fine. From J. J. Dixwell, very fine Le Curé, Winter Nelis, and Delices d'Hardenpont pears. From A. W. Haven, a superior collection of pears, 10 varieties, including very fine Beurré Diel. From J. Richardson, superior Duchess of Angouleme, and Louise Bonne of Jersey. From Jos. Lovett, Paradise of Autumn, and Gansell's Bergamot. From Messrs. Hite & Carr, Portsmouth, superior Duchess of Angouleme. From R. Crooker, a superior collection of pears, 13 varieties. From W. Bacon, 7 var. of pears, and Late Crawford peaches. From O. Pierce, Lowell, one Duchess of Angouleme pear, weighing 24 ounces. From E. H. Hitchings, Diana grapes, very fine. From J. Cass, fine Isabella grapes. From C. E. Grant, superior Isabella and fine Catawba grapes.

From W. C. Strong, 12 var. of grapes, fine. From J. Owen, Seedling Damson plum. From S. Downer, Jr., 8 var. of pears. From H. Vandine, 8 var. of pears. From Sam. Phipps, 23 var. of pears, and 2 of apples. From Thos. Hill, very fine quinces.

Fruits tested.—From Hovey & Co., Swan's Orange, superior, sustaining its high reputation; St. Michael Archangel, fine; Oswego Beurré, fine. From W. C. Strong, various samples of grapes.

ART. IV. *Obituary.*

DEATH OF PROF. J. P. NORTON.—Scarcely had our notice of the death of Mr. Downing reached the eyes of our readers, before we had to mourn the loss of another, no less prominent as an Agricultural and Horticultural writer, Professor Norton, of Yale College, who died aged only 30.

Mr. Norton was one of the most thorough agricultural chemists in the country. He went abroad in 1841, and enjoyed the intimacy of Professor Johnston, in whose laboratory he pursued his studies under his direction. In the fall of 1845 he travelled on the Continent, and visited most of the celebrated laboratories there. On his return home he was made Professor at Yale College, but wishing to perfect himself as a chemist, he again visited Europe in 1846, and studied with Professor Mulder, at Utrecht, returning in 1847, when he assumed his duties at Yale, which he continued up to his death.

Mr. Norton was the author of a *Treatise on Scientific Agriculture*, which was written as a prize essay, for the New York State Agricultural So-

ciety. He also wrote an Appendix, and added Notes to a new edition of Stephens's *Book of the Farm*, which we reviewed in our last volume. Besides this he was a constant contributor to the *Cultivator*, and his articles were the chief attractions of that paper.

His loss will be severely felt by the agricultural community, and the scientific world generally. He was a zealous friend of agricultural improvement, and all his efforts were directed to the advancement of an art, the most important, as it is the most universal, of all others.

HORTICULTURAL OPERATIONS

FOR NOVEMBER.

FRUIT DEPARTMENT.

October has been a cool month, though without any frost of severity, up to the 16th, when all tender vegetation was killed. With but three or four rainy days, it has been a favorable time for all kinds of fall work, and preparatory operations for cold weather. This is usually a busy month. Now is the time to proceed vigorously with fall planting. Never put off till spring. We have set out many thousands of trees, both in autumn and spring, and consider the former season as far preferable to the latter: indeed, any person who will make a fair experiment of three years, will be perfectly satisfied with the advantages of fall over spring planting.

GRAPE VINES in the earliest houses, such as have been forced, should be immediately pruned, cleaned, and put in order for an early start in December. Wash the vines, and lay in as we have before advised. Cover the border with four to six inches of manure, and on top of that twelve inches of old hay or leaves; this will keep out all frost and cold rains. Vines in greenhouses and cold houses may be pruned as soon as the wood is thoroughly ripened: in the greenhouse it may be done immediately, before the plants are all staged for the winter: besides, it gives the house a neater appearance. Lay down and protect the vines in cold houses. Cover the borders with three or four inches of manure.

STRAWBERRY BEDS will yet need attention, especially newly planted ones. Keep down all weeds. Cover the beds with strawy manure, tan, old straw, hay, leaves, or anything that will keep them from the effects of the winter's sun. The cold does no injury.

RASPBERRY VINES should be laid down before severe frost, and covered with a few inches of earth, or manure.

CURRENT BUSHES should be well manured; it is the best season to apply it now around the roots, on the surface of the ground.

FRUIT TREES of all kinds may be transplanted safely the whole of this month.

The FRUIT ROOM should have attention. Keep the temperature as near 40 as possible, and preserve the air fresh and sweet by removing imme-

diately, as soon as perceived, any decayed fruit. A little attention will be the means of prolonging the season of ripening.

TRENCH and prepare ground for spring planting, and forward all work as much as possible.

FLOWER DEPARTMENT.

The moderate temperature of the month has been favorable to a continued display of many kinds of garden flowers; verbenas, roses and many other things are yet nearly as gay as in August. This has to some extent delayed the taking up of many plants; for as long as they continue to bloom it seems hardly necessary to destroy their beautiful appearance. But as winter will soon be upon us no time should be lost in preparing for it.

CHRYSANTHEMUMS will now be blooming finely, and, if shaded from the hot sun, will continue in flower a great length of time. Water freely with weak liquid manure, and syringe occasionally over the foliage; keep down the aphid by fumigation.

CAMELIAS will begin to bloom. Attend to the plants as we advised last month.

CINERARIAS are among the most showy winter plants; shift now into larger pots all the most forward specimens, and keep the remainder in frames near the glass, as long as the weather will permit.

JAPAN LILIES in pots, may remain out in a frame until the season of re-potting, if protected from rains and frosts by a covering of leaves and boards, or sashes.

PELARGONIUMS will now need much attention; all the young plants should now have a shift into the next size; old plants should also be re-potted; use a rather sandy turfy soil now, drain well and keep them as close to the glass as possible.

GLANDIOLUSES of the tender kind should now be potted, and placed in a frame or the greenhouse.

PANSIES intended for flowering in the house should be potted as soon as possible, that they may get established early.

ROSES in pots, taken up last month or earlier, and placed in frames, should now be pruned in, and removed to a good place in the house, where they will soon show an abundance of bloom.

HELIOTROPES may be now shifted into larger pots, and placed in a warm part of the house, where they will bloom freely.

HEATHS will require care. Shift as soon as they need it, and do not wait for any particular time to go through with the operation. Keep in the coolest part of the house, away from the flue, and in an airy place.

VERBENAS for early blooming may now be shifted into larger pots, and have occasional waterings with liquid guano.

CYCLAMENS in small pots, showing a great quantity of flowers, may be removed into the next size. An occasional supply of manure water will benefit them much.

CALCEOLARIAS will now be in readiness for another shift. Keep down the green fly, and keep them on a cool shelf, as near the glass as possible.

TREE VIOLETS in pots should not be forgotten; nothing is prettier, or adds more to the fragrance of a bouquet. Keep them out in frames as long as possible.

TROPEOLUM LOBBIANUM, is one of the finest winter flowering plants; shift into good sized pots, and train up to neat balloon trellises; thus managed they are the finest ornaments of the house the whole winter.

LACHENAUXTIAS should now be repotted.

ALSTROMERIAS should now be potted, and placed in a warmer part of the house.

MONTHLY CARNATIONS are great additions to a collection, particularly the new French sorts. Secure a good stock of plants, place them in a light airy place, and tie up neatly to stakes.

CUPHEA PLATYCENTRA should now be shifted into larger pots.

CHINESE PRIMROSES will now begin to bloom; keep them free from dead leaves, and water occasionally with very weak liquid manure.

MIGNONETTE and **SWEET ALLYSSUM** in pots, should not be overwatered; thin out the plants to five or six in each pot, and keep as near the glass as possible.

MAURANDIAS, of the different varieties, if neatly trained to handsome trellises, are beautiful all winter.

HARDY AZALEAS, **RHODODENDRONS**, **WEIGELIA**, **SPIRÆA PRUNIFOLIA PLENO**, &c., should now be potted for forcing, in all collections where there is room.

FLOWER GARDEN AND SHRUBBERY.

Now is the time to make new plantations of shrubs, hardy herbaceous plants, bulbs, &c.

LILIES of all kinds, except *Canadensis*, should now be set out, or reset.

DAHLIA roots should be taken up immediately, if not already done.

TULIPS, **HYACINTHS**, and other hardy bulbs should now be planted.

GLADIOLUSES of all kinds should now be taken up and housed before severe frosts.

HERBACEOUS PÆONIES should now be transplanted.

PANSIES, set out now in a small bed, and protected by a covering of leaves and boards, will bloom beautifully in early spring.

NEAPOLITAN VIOLETS, in frames, must be secured from severe frosts by a covering of mats and straw. If properly attended to they will bloom from December to May.

CARNATIONS may be wintered in pots, or in the ground, in frames.

HERBACEOUS PLANTS of all kinds will need protection of some kind before severe weather. Leaves or coarse strawy manure is the best, but if not at hand, old tan, straw, or hay.

Dig, trench and prepare ground intended to be planted with seeds early in the spring.

THE MAGAZINE OF HORTICULTURE.

DECEMBER, 1852.

ORIGINAL COMMUNICATIONS.

ART. I. *Transplanting Large Trees.* By the EDITOR.

WE have never been an advocate of the practice of removing very large trees. That it can be done, and very successfully too, has been long since demonstrated by Sir Henry Stuart, in his *Planters' Guide*. Yet, upon the whole, except in some few instances, where a tree is loved for the associations connected with it, or where it is desirable to produce an immediate growth upon some treeless and exposed site, we have not thought the practice worthy of general imitation.

In our severe climate, where the icy fetters of winter permit the removal of trees on a different plan from that of warmer regions, transplanting very large ones may be done with a greater certainty of success than by the ordinary method, as detailed in the work above alluded to; and we have from time to time recorded the most successful experiments by the frozen-ball method, as it has been very properly called: a more recent case has just been communicated to us by our correspondent Mr. George Jaques, of Worcester, where the specimens removed were not only very large, but the most difficult kinds to subject to such an experiment, viz., the shellbark hickory.

We have now lying before us a handful of very handsome shellbarks, gathered from trees 30 to 40 feet high, removed by Mr. Jaques less than two years ago, this being their

second season of growing since they were reset. This very remarkable success must be attributed to the skill and knowledge of Mr. Jaques, who fully understands the proper conditions of vegetable growth, and who attended to the removal of the trees personally, leaving nothing undone which would contribute to their future prosperity and health.

The following is Mr. Jaques's communication, accompanying the parcel of shellbarks:—

Dear Sir:—The accompanying shellbarks—well ripened, as you will find them—grew, this season, upon a tree which my brother and myself transplanted twenty-one months ago, *i. e.*, in January, 1851. The tree was moved, at the same time with three others, a distance of two miles, by what is called the *frozen-ball* method of transplanting. It is now in a fine healthy condition, and, with the others,—all of which are over thirty feet, and one of them forty feet, in height,—serves at once for ornament and shade. Upon our new place, they produce a fine effect in taking off and relieving the inevitable rawness of a recent settlement.

Thinking that a simple statement of these facts might encourage others to do likewise, I have written these few lines. Knowing—as no one better does than you—the great difficulty of transplanting our hard-wooded forest trees, particularly the oak and several species of the hickory, you will concede that our experiment has been eminently successful. The expense of transplanting did not exceed twelve dollars per tree.

Do not regard this on my part as a piece of boasting, but simply as a word of encouragement to those who are compelled to locate themselves and their household gods upon a naked spot of earth. The statement, you perceive, is of what *has been* done, not what *may be* done. What has *actually* transpired, it seems to me, is worth a great deal more to your readers than speculations in regard to what is *possible to be done!* Truly your friend, GEORGE JAKUES.
Worcester, October 20th, 1852.

Now, as we have already said, we are not an advocate of the system of removing very large trees; yet, knowing that it can be done, there are occasions when it is desirable to avail ourselves of the practice, as in that of Mr. Jaques, where the object was to "relieve the inevitable rawness of a new settlement." Other instances are where individuals, laying out a new place or improving an old one, find it expedient either to cut down or remove a beautiful, rare, or valuable tree: and in others, where some of our finest native trees, not being procurable in the nurseries of any size, must be removed from their native woods, or the possession of them relinquished: again, where trees are exceedingly impatient of removal, like the hemlock, tulip, &c.: who would begrudge ten, nay, fifty dollars, to have some magnificent and feathery hemlock, growing in the forest, transported, in all its gracefulness and vigor, to the lawn or pleasure ground? The fact that transplanting can be successfully performed in such cases, is of great value to all who appreciate the beautiful in nature or art. That we can possess ourselves, and immediately too, of the successive growth of forty summers, is in itself a matter of no small surprise. Those advanced in life, who are retiring to the country with plenty of means, by adopting Mr. Jaques's experiment, may realize, in a very short period, the efforts of years.

ART. II. *Some Plants seen about the Region of the Notch,*
September, 1852. By JOHN LEWIS RUSSELL.

EVERY body, who travels, visits the White Mountains of New Hampshire, the Notch, the Flume at Franconia, and other points of interest, whether at the base of this noble range of hills, or, perchance, the higher summits of the more cloud-piercing. Almost every body makes rapid and violent tours, not of pleasure and comfort, but of time-consuming energy, as if speed was the main object to be secured.

Many are whirled over the road by strong horses and in stout wagons, to make an entire circuit and to get over as much ground as possible. Some visit certain points of attraction, where the pencil of the artist, the eye of the landscape lover, or the rod of the angler, may be pleasantly employed. A few abide, for the season, in some quiet nook or less fashionable inn, where they can see this bustle of the travelling multitude with an indifferent regard, better pleased with tracing the less known but more interesting features of the region, whose perennial brooks and feathery waterfalls discourse in eloquent music amid novel forms of geological and botanical wonders.

It was for the purpose of making myself acquainted with the condition and habits of some of the lower forms of vegetation, which grow with peculiar luxuriance there, that I made a short sojourn at the foot of Mt. Crawford, where, ensconced within the hospitable walls of the **MT. CRAWFORD HOUSE**, and occupying, when I list, the strong, high-backed, easy arm-chairs of its late venerable proprietor, I found myself in company with a friend for whom, beside other qualities of mind and heart, I entertain a profound respect for his scientific talents; and with whom, and with a valued acquaintance, I used to sally out on some excursion, to spend the hours of September sunshine and heat, among the ravines of the contiguous hills or near the foam of some waterfall, the white streak of whose current adown the face of the mountain rock we had previously noticed and traced in the distance by our eye. My new acquaintance had for many summers previous visited and lived on this spot; and to my friend, the scenery was as familiar as it was loved. They had both, singly and together, trod many a mountain summit, explored some new lake, or encamped in the distant forest, where their camp fire had been greeted by the wild animals, which came to inquire into their intrusions. Familiar as were these scenes to them, all was new and attractive to me; and the veriest common-place incident by field or flood, the most common moss or plant, the older or latest *slide*, the nearest cliff or the next gorge, did not fail to afford me some

new interest. These short excursions,—a morning's ramble, an afternoon's walk or a day's exploration,—come back to me like some pleasant dream; and I am fain to recall one such, to which we dedicated the best hours of a pleasant day in climbing the bed of Halfway River, upwards, to and above its waterfall, whose picturesque beauty claims no mean share of the admiration commonly bestowed on other and better known cascades in this neighborhood of the White Hills.

The early part of September was unusually dry and warm. The thermometer ranged to 80° Fahr., or even more for several successive days; yet, in less than a fortnight after, I saw on the distant summit of MOUNT CLINTON, and lying at the base of MOUNT PLEASANT, on the line of the black growth, the lately fallen snow of some sudden squall. The temperature about the MOUNT CRAWFORD HOUSE is more equable and delightful than that of the adjacent country; and the frosts of autumn are more tardy in their visits than they are at the distance of a few miles. Mine host regaled his guests with watermelons from his own garden; while sweet corn and other varieties of maize, with beans and the usual esculents of horticultural care, seemed to thrive. A sweet apple, originating on the soil, abounds about the house, having been judiciously propagated by pieces of the roots, after its merits had been fully tested many years ago. Some efforts to increase the list of better apples, have not been crowned with that success which so laudable an enterprise should have promised, owing, doubtless, in a great measure, to errors in the scions; yet the capability of the soil and of the aspect has been established, nevertheless. In a little garden, under the superintendence of his daughters, were growing most luxuriant specimens of some of the best varieties of Verbena, while Carnations, Heliotropes, Clarkias, Nemophilas, Chinese Pinks, Asters and Calendulas, luxuriated in the deep virgin loam; and, with other flowers, afforded many a hastily formed bouquet to the passing traveller, whose ideas of *meum* and *tuum* did not often seem to recognize any particular ownership. My new and valued acquaintance

had interested himself in these offerings to Flora, and even had made some advances in pomological science and industry from year to year; proofs of which he exhibited to me in renovated trees and vigorous grafted branches upon the old apple stocks, and in a few good looking dwarf pears, which seemed likely to endure the severe winters of the place.

These mountain streams, though less affected by the contingencies of the seasons than those of the lower and more level country, yet are sensibly diminished in volume of water during continued dryness, or are rapidly swollen by the showers which sweep over the summits of the hills, where the springs which feed them take their rise. A medium stage of water seems to be more favorable in developing their beauty, where there is enough of that element to partially conceal the contour of the rock strata. It is then, that whatever flowers or plants are perceptible around their dizzy brink, or are nestled in their dripping crevices, wear a bright, cheerful, and fresh aspect, as if in the enjoyment of that vigor and cleanliness which we ought to expect under such circumstances. Purity is involuntarily associated with water; and a plant seems as much injured from its contact with mud, leaves and the refuse of a flood borne down upon it, as do higher organized beings, whose exteriors do not evince that acquaintance with the salubrious qualities of water which wisdom or discretion would prompt. There are some species of the larger mosses which become radiant with this freshness of beauty, and whose foliage, studded with globular water drops, reflect the sunlight with marvelous and attractive splendor.

In OAKES' *White-Mountain Scenery*, may be seen a beautiful plate, in which is represented a bridge spanning a deep defile, where the disintegration of the trap rock, by the action of the water, has left on either side straight, smooth and high walls for a considerable length. At the foot of this natural and deep water-worn channel, and at a little distance below, the debris, in the shape of large rounded loose stones, constitutes the rocky bed of the mouth of Nancy's River as it falls into the Saco. The site is often selected for its pic-

turesqueness, and used to be visited for that end before the erection of a substantial saw-mill, whose proposed utility can be considered as the chief excuse of its otherwise objectionable presence in so peculiar a spot. If you will take your stand upon this bridge, and face the mountain, which lies a little to the right, as you look up the supposable course of Nancy's River, you may perceive, against the dark green foliage, a long narrow streak of white, and, if blessed with a distant power of sight, may notice a slight undulation or waving adown its track. Crossing the bridge then, and proceeding down the public road for the distance of some half mile, you enter a very rude and rough wood road, and strike upon the stream, whose circuitous course bears the waters of Halfway River, and will furnish the botanist a rich harvest of curious plants, which invest its shaded rocks and fringe its rushing current. It were hardly necessary to state how often some stain-like spot on the surface of a smooth wet stone would arrest our attention, indicating a beautiful species of lichen; or how the old rough gray bark of some noble forest tree would furnish the reasons for an half hour's delay in quest of an almost microscopic plant, which nestled in its chinks. Nor need I tell of the patient labor, the delicate touch, the curious eye, and the successful chiselling off of some fragment, which he, who bore the hammer and chisel, with an artist's skill evinced. Suffice that our labor was not in vain nor our search fruitless.

After some hours of such progressive advance as our inclinations prompted, we arrived at the foot of the waterfall towards which we had bent our course. Some hard climbing up the steep and precipitous rocks began to be needed ere we gained a full view of the descending sheet. This was easier accomplished by all the party than by the "Major," whose obesity overcame his resolutions. A friendly pull by the nape of the neck greatly facilitated his endeavors, so that the difficulty which he encountered was removed. It seemed like rough usage towards a friend, but such a friend was too generous to take offence. Delighting as he did in any mountain ramble, however protracted or tedious, he could not

relinquish its pursuit for trifles. Be not alarmed, my reader, for the Major enjoyed no other military qualities than his repugnance to bears and wildcats; and dog as he was, could distinguish between a well-meant action and an intended affront. The presence and company of never so humble a friend can be appreciated by any who have tracked the solitudes of the forests; and of Major's social qualities, it needed but a slight acquaintance to be fully persuaded.

The most striking plant we noticed was *Aster acuminatus*, (Mx.,) which grows with the greatest perfection in the cool rich woods of Northern New England. Its pointed, strong leaves,—its simple and low stem, crowned with its paniced corymb of purplish tinted white flowers,—render it always conspicuous. This purplish tint is sometimes very observable, and adds greatly to the beauty of the flower. I am of the opinion that cultivation would make it a desirable perennial for our gardens. The showy *Solidago squarrosus*, or large-spiked Golden rod, commanded our notice; belonging to a group of autumnal flowers, out of which some very showy ones could be selected. There grew, also, *Platanthera orbiculata*, (LINDLEY,) a curious species of the Orchis tribe. The delicate *Oxalis acetosella* was springing up among the dead leaves; past, indeed, in flowering, but freshly green in its trifoliate leaves. *Pyrola secunda* was there, a pretty denizen of rich woods. *Thalictrum cornuti*, (L.,) the congener and cospecies of *T. dioicum*, whose earlier and dwarfer form constitutes one of the favorites of my cultivation; and of the pure, white, filamentous flowers of the first named, I have heard much admiration expressed. Nor was the *Chelone glabra* (L.) wanting in a place so meet for its presence: while, if the names of plants really indicated their virtues, any mortal injury to limb might have been alleviated by finding in *Prunella vulgaris* an "All Heal." The curiously suspended scarlet berries of *Streptopus distortus* (Mx.) contrasted with the pale green and large leaves of the plant, and we were induced to try their flavor, which, in lieu of better fruit, was passable. The dry and insipid crimson fruit of *Trillium erectum* was close at hand, but did not invite par-

ticular regard. But would you remind yourself of the dried date of commerce, try the ripened and black berries of the *Viburnum lantanoides*, also called Hobble bush, and even American Wayfaring tree, by some casual and happy appositeness to the noble Wayfaring tree of the desert, doubtless, the Date palm, whose grateful shade is hailed alike by man and beast. So much then *for* a name, whose similitude involuntarily points to a common taste or flavor in fruits so dissimilar! Should there be any merit in this *discovery* through an etymological relation, I shall lay claim to it myself! It would be well could truth speak as highly of all sorts of wild berries; an acquaintance with which exhibits too clearly the folly of such ideality.

Some beautiful ferns appeared also in our exploration, of which *Polypodium phegopteris*, (L.,) *Dryopteris thelypteris* and *Dryopteris dilatata* may be mentioned. Here also grew the characteristic *Carex scabrata*, springing up among the wet mossy rocks and within reach of the spray.

It was at this point, and within full view of the dashing waterfall, whose contour was that of some rich snowy feather, with its fleecy top bent upward, as if, inverted, it had struck against the stratum of rock,—a great white ostrich plume,—and with a deep basin of the most crystal water at its foot, that we discussed what frugal store constituted our repast. A mighty block of stone, loosened, doubtless, from above, rose far above us, in the shade of which we bivouacked, and on whose surface I was so fortunate as to find a new species of *Endocarpus*. So beautiful a scene, so mild a spot, so charming a cascade needed some better name, and by acclamation we called it *Bemis' Fall*, in commemoration of which, should you ever go there, you may find, if you please, the letter B engraved upon the massive erratic block of stone just mentioned; and facing you as you ascend, you may see the lithe, smooth, silver trunk of the Canoe birch, seemingly supporting the rock, which has afforded *it* protection.

The protean forms of fungi had already appeared in the woods, indicators of advancing autumn. Many of these I noticed on our return; the rapid character of which, as the

day was drawing to a close, prohibiting more than a glance. Agarici, white, red, brown, yellow, violet and purple, abounded, and smaller kinds beside. Happy would have been the mycologist who could have culled them! But we left them in their glory; and would you know more of them, or of the rich treasures of the forests of the vicinity of the Notch, you have only to trace the steps of the lamented OAKES, or study the researches of our TUCKERMAN, or make as pleasant an acquaintance as I did, with Dr. S. A. BEMIS, of Boston, to to whom every dell and stream of the White Mountains are familiar.

Hingham, November 1, 1852.

ART. III. *The effects of Light on the Germination of Seeds, &c., when passed through media of various colors.* By R. B. L.

(Concluded from page 445.)

NUMEROUS experiments have been tried with the seeds of mignonette, many varieties of the flowering pea, the common parsley, and cresses: with all of these the results have been similar to those already described. The seeds have generally germinated the most rapidly under the red glass, in the spring of the year; but when the heat of summer has advanced, the temperature of the red light has been too great, and germination has been prevented. Except under the blue glass, these plants have all been marked by the extraordinary length to which the stems of the cotyledons have grown, and by the entire absence of the plumula. No true leaves forming, the cotyledons soon perish, and the plant dies. Under the green glass, the process of germination has been exceedingly slow, and the plants, particularly the cresses and mignonette, have speedily perished.

Under the blue glass alone has the process of germination and maturation gone on healthful to the end; and although I have found a few instances of a perfect plant under the

yellow glass, it has not on any occasion endured to the perfection of a flower. Excepting under the yellow and blue glasses, all the plants experimented on have been more or less etiolated.

The results in those cases where fluid media have been used, from the more perfect isolation of the rays which have been thus obtained, have been much more decided. Under the influence of the light which had been subjected to the influence of the yellow fluid, germination has been entirely prevented. Under the red light, in some cases, germination has commenced, but the young plant has speedily perished. Under the green, the plant has been developed, but in a very weak state, with pale leaves, and nearly colorless stalks. But under the influence of the blue light, the most perfect plants have been produced, and through all their stages, maintained in the most luxuriant state.

These experiments prove that the process of germination is obstructed by the influence of light on the surface of the soil, although the bulbs and seeds have been buried some depths beneath it. The effects of heat, as exhibited by the red rays, are not, I think, to be regarded as destructive in themselves; as plants have been found to grow under the influence of those rays when they have been supplied with an extraordinary quantity of water, to supply that drawn off by continued evaporation: whereas, although the evaporation, which has been equally rapid under the yellow media, has been met in the same manner as under the red, it has produced no beneficial results.

One very remarkable result must also be here noticed. Under all ordinary circumstances, plants incline decidedly towards the light, as may be seen by placing any kind of plants, in a common room, near a window. Thus, having a very small portion of the surrounding space open to the transmission of light, the plants will speedily turn the surface of their leaves towards the medium by which light is admitted. This will also be the case should the plants be placed at the extreme end of the room, many yards distant from the window; and when not influenced by the direct

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rays, they will turn in a similar manner to radiated light. But in all experiments with red fluid media, they have as decidedly bent from it. I do not know how to account for this as the effects of mere heat; it would appear that some property resides in the red rays which acts in opposition to the general law. But many further investigations and experiments are requisite on this point, before this circumstance can be fully and satisfactorily explained.

It has been stated by Dr. Draper, that he has found, under the influence of the bright sun of Virginia, that plants have grown well in light which has been made to permeate an intensely yellow solution of considerable thickness. I am not certain if the germination of seeds has been effected under the same circumstances; but even if they have been made to germinate, it admits of explanation. The fervent rays of southern climes would permeate media by which the subdued rays of northern latitudes would be entirely obstructed. In proof of this, I may remark, that during the height of the splendid summer of 1842, I was myself successful in procuring the germination of a few seeds under the influence of the yellow light. At the same time, some very remarkable photographic results were obtained, which distinctly proved the atmosphere to have been in such a condition that a larger quantity of the sun's rays were enabled to penetrate it and reach the earth. It was also observed, in some localities, that the foliage of all trees was of a darker green, and that many flowers, particularly those of a pink, or pale red color, generally assumed a particular and decided blue or lilac tint.

The soil in which the plants grew was the same in each of the boxes used; but it was several times observed that, under the yellow glasses and fluids, fungi made their appearance. From the occurrence of these vegetables, under the same circumstances, on several occasions, I was naturally led to observe their production with greater care. I could not, with the utmost attention, make the *Agaricus muscarius* grow behind any other absorbent media than the yellow, under which it grew luxuriantly. This circumstance appears,

in some measure, to explain the popular notion that mushrooms, and plants of that variety, grow most abundantly under the influence of bright moonlight. It has never yet been found that any heat comes from the rays of the moon, and the amount of chemical action which has been detected has been very small: we must therefore regard the moonbeams as consisting almost entirely of the luminous rays; the other active rays being, in all probability, absorbed by the moon's surface.

It is not at present in our power to explain, in anything like a satisfactory manner, the way in which the luminous rays act in preventing germination. The changes which take place in the process have been investigated by Saussure: oxygen gas is consumed, and carbonic acid is evolved; and the volume of the latter is exactly equal to the volume of the former. The grain weighs less after germination than it did before, the loss of weight varying from one third to one fifth. This loss, of course, depends on the combination of its carbon with the oxygen absorbed, which is evolved as carbonic acid. According to Proust, malted and unmalted barley differs in the following respects:—

	Unmalted.	Malted.
Resin,	1	1
Gum,	4	15
Sugar,	5	15
Gluten,	3	1
Starch,	32	56
Hordein,	55	12

This shows that the insoluble principle, hordein, is, in the process of germination, converted into the soluble and nutritive principles, starch, gum and sugar. We are therefore at present left in considerable doubt. We can only suppose that the luminous solar rays act, as indeed we find they do, on many of the argentine preparations, in preventing those chemical changes which depend upon the absorption of oxygen. A like interference has been observed, by Sir John Herschel, to be exerted by the extreme red rays of the

spectrum; and from the manner in which germination of the seeds is impeded, when covered by a deep red media, we may trace a somewhat similar influence.

I have endeavored, but as yet without being successful, to ascertain the real use of the cotyledon. Some have attempted to show that it is of no use for the purpose of nourishment, but that its office is merely to screen the first leaves from light and air. I am rather inclined to regard them as the lungs of the young plant, in which, under the influence of the solar rays, the decomposition of air and water is effected. I shall not, however, at present, venture on any further speculations on this matter.

Roxbury, November 25th, 1852.

ART. IV. *Descriptions and Engravings of Select Varieties of Apples.* By the EDITOR.

XLIX. BELLFLOWER. *Coxe's View, &c.*

Belle-fleur, yellow. *Fruits and Fruit Trees.*

Belle-fleur, yellow. *Hort. Soc. Cat.*

Yellow Bellflower, of many American collections.

The Bellflower (*fig. 38*) is one of our finest American apples, and is extensively cultivated in New Jersey, where the variety originated, near Crosswicks, Burlington County. Coxe first described and figured it, and he considered it a most superior apple.

In New England, its cultivation is yet extremely limited; but it deserves, with the Baldwin and Greening, to be found in every orchard, however small. It possesses a most refreshing juice and peculiar high flavor, and, in January and February, is not excelled by any other apple. Its large size, peculiar form, and handsome appearance, added to its other qualities, make it a most valuable variety.

The tree is a vigorous and rapid grower, making, however, slender annual shoots; and the wood is quite distinct, being

of a very light pale yellow. The blossoms, too, from whence its name, are large, showy and beautiful. When loaded with its large fruit, the slender branches weep to the ground with their weight, and the tree is then one of the most beautiful in the orchard.

Size, large, about three inches long and three broad:

Form, oblong, inclining to conical, largest about the middle, narrowing considerably to the eye, with five or six prominent

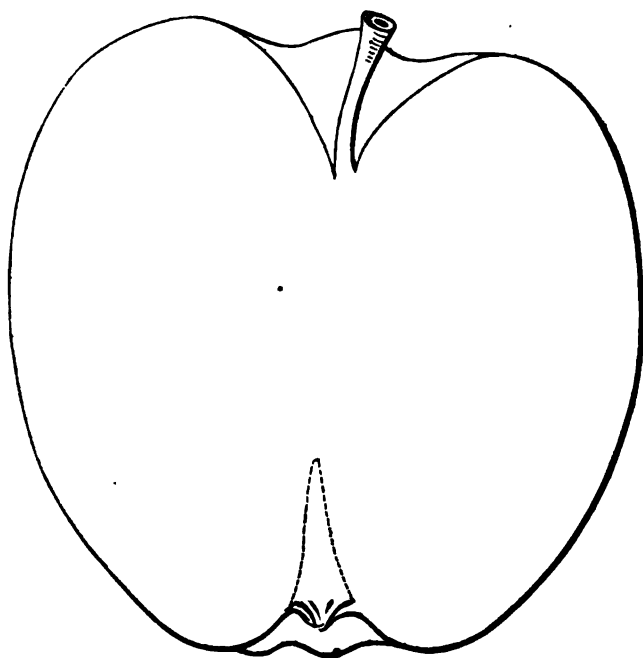


Fig. 38. Bellflower.

ribs extending its whole length, somewhat irregular in outline: *Skin*, fair, smooth, deep yellow, handsomely tinged with blush on the sunny side, dotted with crimson, and sparsely covered with small russet specks in the shade: *Stem*, medium length, about one inch long, rather slender, and deeply inserted in a large and somewhat open, ribbed, cavity: *Eye*, large, partially closed, and little sunk in a small, abruptly depressed, and distinctly ribbed basin; segments of the calyx, entire, incurved: *Flesh*, yellowish, coarse,

crisp and firm: *Juice*, abundant, subacid, sprightly and high flavored: *Core*, large, open: *Seeds*, large, long and dark brown. Ripe from November to March.

L. MAIDEN'S BLUSH. *Coxe's View, &c.*

The Maiden's Blush (*fig. 39*) is another apple first described by Coxe, and supposed to be a native of New Jersey, where it was first introduced to notice by Samuel Allison, Esq., of Burlington. In point of beauty, it perhaps surpasses almost any other apple: the skin is of a clear yellow waxen hue, set off with a brilliant rosy cheek; and no name could be more appropriate than that which it has received.

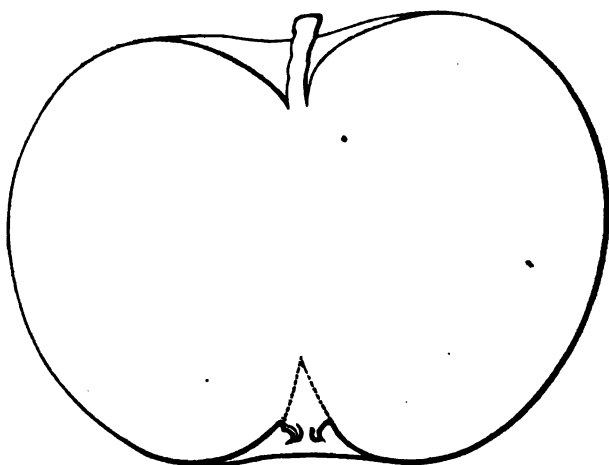


Fig. 39. Maiden's Blush.

As a table fruit, the Maiden's Blush is only of moderate quality; but for the kitchen few surpass it. The flesh is exceedingly tender, very juicy, and well flavored; and from August to October there is no better apple for culinary purposes.

The tree is a rapid and vigorous grower, upright and handsomely shaped; and the full grown trees form fine, open, spreading heads: it also bears young. A low-trained tree, loaded with its fair, yellow, ruddy-cheeked fruit, is one of the most brilliant objects in the fruit garden. Wood, yellowish.

Size, large, about three and a quarter inches broad, and two and a half deep: *Form*, oblate, very regular in outline, flattened at the base, rounding off towards the crown, which is slightly oblique: *Skin*, very fair, waxen, clear light yellow, with a deep crimson cheek on the sunny side, quite abruptly shaded off: *Stem*, short, less than half an inch long, rather slender, and inserted in a moderately deep and very open cavity: *Eye*, medium size, partially open, and little sunk in a broad, rather shallow, and nearly smooth basin; segments of the calyx, broad, short: *Flesh*, white, fine, crisp and very tender: *Juice*, plentiful, subacid, pleasant, but not high flavored: *Core*, medium size, nearly closed: *Seeds*, small, angular, light brown. Ripe in August and September.

LI. SOPS OF WINE. Hort. Soc. *Catalogue*, 3d Ed., 1842.

Sops in Wine. Hogg's *Pomology*.

Sapson. Kenrick's *American Orchardist*.

The Sops of Wine (*fig. 40*) is a pleasant and beautiful summer or fall apple, of English origin, whose merits appear to have been overlooked by our cultivators. Among many of the American varieties, which are now so numerous and fine, this apple, it is true, will not hold an equal rank; yet it has merits which entitle it to a place in the amateur's collection, if not in the orchard of the extensive cultivator for the market. It is a brilliant and handsome fruit, always fair; and its flesh, which is peculiarly tender, is tinged with pink throughout, as if it had been sopped in wine, from whence its name.

The tree is vigorous, and of good form, somewhat spreading, and a great as well as a rather early bearer. Its season is from August to October.

Size, medium, about two and three quarter inches broad, and two and a half deep: *Form*, roundish, slightly ribbed, narrowing little to the eye: *Skin*, fair, smooth, light red, nearly covered with bright purplish red, in somewhat indistinct streaks, often yellowish on the shaded side, dotted with yellow specks, and overspread with a delicate whitish bloom: *Stem*, short, about half an inch long, slender, and

inserted in a moderately deep, open cavity: *Eye*, medium size, open, and but slightly depressed in a shallow and somewhat furrowed basin; segments of the calyx, broad, entire, projecting or partially reflexed: *Flesh*, yellow, deeply stained

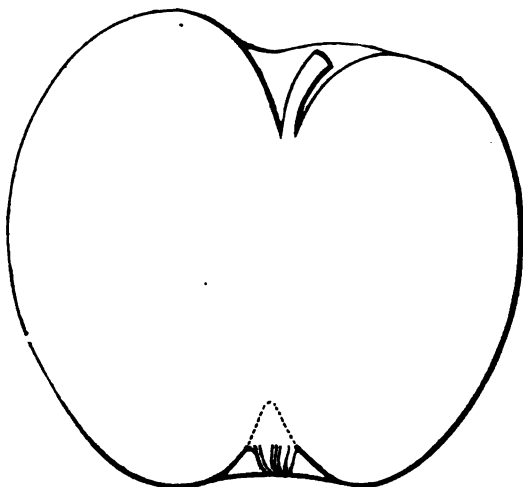


Fig. 40. Sops of Wine.

with bright pink, soft, tender: *Juice*, abundant, with a pleasant admixture of sweet and acid, and well flavored: *Core*, medium size: *Seeds*, medium size. Ripe from August to October.

ART. V. *The Victoria Regia at Springbrook.* By THOMAS MEEHAN, Gardener to C. COPE, Esq., Philadelphia.

MR. C. M. HOVEY:—I regret you were unable to visit Springbrook on your late stay in Philadelphia. The last number of your interesting Magazine would not then, I feel assured, have informed your readers that “Mr. Cope’s plant was now in its decade.” Our plant, at this moment, far exceeds in health and appearance its condition at the same period last year; and, probably, surpasses any other plant in

the whole horticultural world. I write without any recent information respecting Mr. Feast's plant; which, being younger, and in a more southern latitude, may *possibly* surpass ours. I should be glad to learn that we are beaten, although at the expense of Mr. Cope's generosity in the distribution of the young plants; because it would teach us, that great as has been our success, there is yet a higher standard of perfection at which to aim. A few days ago, in the presence of two neighbors of yours, Messrs. Stone, of Watertown, I measured the largest leaf then on the plant, which was 5 feet 10 inches in diameter; being but 8 inches less than the largest ever grown by us, and but 2 less than the measurement you give of Mr. Feast's, previous to the middle of *September*. At the present time, we have eleven leaves on our plant, giving collectively 220.90 superficial feet. The greatest quantity of surface we have ever had, was, by measurement on the 24th of August, 263.07 feet. This, in an octagon tank only 24 feet in diameter, cannot well be beat. I think you will see, that with such a growth as this, we have little spare room for the *Nymphæas* you suggest. The fact is, that, monstrous as a tank 24 feet in diameter and 4½ feet deep, was considered to be at the commencement, by our system of management it is far too small. Were Mr. Cope to begin but now, with all the experience we have gained, he would not think of a tank less than 30 feet wide by 10 deep.

Our plant has produced, to the middle of October, 94 flowers. I expect to see it double these figures before I dream of its "decade." Something more than two flowers every five days, on the average, for fourteen months, is not so very bad for a single plant. "But it is not producing that average just now;" not owing to any "decade," but principally to its not being allowed to grow so fast. Our temperature, for reasons which every gardener will understand, has been kept for the last few months as low as possible, consistent with the health of the plant; never below 75° or above 80°. I have before stated, in the *Horticulturist*, that it will only bloom well in a temperature of from 80° to 90°.

In a few weeks, our tank will be of that heat, when I expect to realize as fine a crop of flowers as we have ever produced, notwithstanding the almost universal prophecy that "the plant must *naturally* soon exhaust itself." Though in the low temperature I have mentioned, it blooms as it grows. A bud on it now, at the time I am writing, will not probably be in bloom for our exhibition next week, but it will not be many days after.

November 13th, 1852.

We are glad to learn from Mr. Meehan that the Victoria lily is still luxuriating under his kindly treatment, and only regret that we should have made any remark that would imply that it is not now in as full vigor as ever. This, however, we must attribute to a misunderstanding. When in Philadelphia, in September, we had the pleasure of meeting Mr. Cope, and inquired if his plant was about to flower, as we had a great desire to see it and give some account of it; his reply was that "it would not bloom at present." We inferred from this, that it had arrived at its greatest perfection, and would not afford another crop of blossoms as it already had done; the duration of the plant being not yet wholly ascertained, some contending that it is only annual or biennial, and hence we made the remark that it was in its decade, a statement which we are the more happy to correct, coming as it does from Mr. Meehan himself.

In a letter to us, Mr. Cope states, that "though not in full vigor, it is by no means in its decline; and he thinks were it possible to change the soil, that "next summer would bring as fine flowers from the same plant as he has ever had; but owing to this difficulty, it will probably be found most convenient to discard the old for a new plant. He will, however, await patiently the fate of the old one in the natural way, before he abandons so great a pet."

It is for this reason, that Mr. Cope would now, were he to build again, make his tank 10 feet deep, in order to afford full scope for the roots of the plant for a great length of time. This may be correct; yet we are not certain how long the

plant will exist, and the expense of heating a tank of the size Mr. Meehan mentions would be very great. Even if the plant would go on flourishing for years, would it not be more advisable to plant out anew, as the young seedlings bloom freely three or four months from the time of planting; and Mr. Cope says they are easily raised from seeds, and can be reproduced without any trouble and in a very short time.

We have not recently noticed the fate of the plants at Chatsworth and Kew; but are persuaded, if the water could be drawn off, and the soil replaced by fresh, the plants would go on flourishing as well as ever. We are glad to see, therefore, that Mr. Cope intends to learn the fate of the old plant before he begins anew.

Mr. Cope has discovered, in the course of his culture of the *Victoria*, that the seeds germinate more readily in deep water than in shallow—in the dark more readily than in the light. Seeds in a dark bottle have grown as readily as the bulbs of a hyacinth, and he thinks this the best way to start them.

Mr. Cope has recently received some of the seeds of the splendid *Nelumbian speciosum*, of China. They have vegetated and are growing finely; and he hopes soon to see this magnificent eastern beauty blooming in the same tank with the *Victoria*.

MISCELLANEOUS INTELLIGENCE.

ART. I. *General Notices.*

ON THE CULTURE AND PROPAGATION OF PÆONIES.—Having read the article on pæonies which appeared on the 11th of September in your journal, I take this opportunity to offer the following remarks on the propagation of this beautiful tribe of plants. Take a large-sized pot, without bottom, and place it just over where (in the spring) the young stalks of the pæony plants will appear on the surface, and fill the pot with well-decomposed vegetable mould. The stalks or stems thus surrounded must penetrate the mould in the pot, after which process they will grow without the least interruption. During summer, the mould in the pot must be kept moist, in order to encourage the formation of roots on those parts of the plants which

are in the vegetable mould. In the month of November or December, when the stalks are cut off just on the basis of the pot, you will find the whole length of the stalks which have been confined in the pots covered with healthy roots. These rooted parts must be cut to pieces, allowing to each piece one eye and a few roots. This performed, plant these pieces in a border previously prepared with good mould for the purpose; after planting, cover the whole border about three inches high with the same compost. This covering will induce them to grow vigorously; and it, at the same time, forms a protection against the injuries of frost. By this method of culture, we may soon have a good stock of plants. Herbaceous and tree pæonies are commonly propagated by division. The process is quite practicable, but it disturbs the growth,—a point which ought to be taken into consideration. The divided parts require about three years to grow till they produce flowers; after the lapse of this time, it is true, they assume a vigorous growth; but I am convinced that the above-mentioned method of propagation is at once more safe and more advantageous. There is another way of propagating the pæonies, namely, by grafting them on the roots of the common herbaceous pæony. Some time ago, I practised in a nursery on the continent, where the stock of pæonies was very extensive; and it was usual to graft the new kinds of tree pæonies on the roots of the common herbaceous kinds. The utility of this method is very great, particularly when the specimen plants are scarce or not strong, which is nearly always the case with “new kinds.” In selecting the roots from the herbaceous kinds for grafting, I made choice of different sizes, which varied in thickness from that of the little finger to one inch and a half in diameter; and I used them in proportion to the strength of the scion to be inserted. For some time I performed the operation in the ordinary way. I cut the roots lengthwise in pieces, allowing each a length of three or four inches; then inserted the scion in the split, which was afterwards tied firmly together with bass, covered the whole with grafting wax, and planted each root in a pot, &c., &c.; but in the course of time experience induced me to modify this practice, and the results were highly satisfactory. Instead of cutting away the prolonged part of the roots from which the fine fibres issue, I conserved them carefully, inserted the scion in the usual manner, but used for tying, instead of bass, galvanized wire, which of course is more durable than bass, and therefore prevents rotteness. Having grafted about twenty or thirty roots, I covered their surface, but only their surface, with grafting wax, planted each carefully in a pot, and leaving only one eye of the scion overground. These pots were made for the purpose. They were about six inches high, and from two to three inches in diameter. There were various sizes used in this operation. After they were all planted, I placed the plants in a dung frame, where the heat was just on the decline. I kept the lights close, and the roots without water for about three days, till a swelling of the buds was visible. Then I commenced sprinkling, giving at the same time every day a little air for an hour or two, which, of course, ought to be augmented when the young plants show signs of their being well established; the lights may then be removed altogether,

but shaded against powerful sun. A shift into pots a size larger will be of great benefit for their strength and healthy development; and whilst the roots are growing to the outside of the balls from the second shift, the place for their future destination in the open ground should be prepared. And here I might venture to say, when we are desirous to bring pæonies to that state of perfection which they are able to attain, and form objects of admiration, a favorable position is indispensable. How often do we meet with single plants, or whole beds of pæonies, crowded and neglected under the wide-spreading branches of full-grown trees! Plants thus situated sometimes produce their blossoms as profusely as those planted in a better locality; but when spring comes on, a slight shower or a gentle breeze is sufficient to bend their heads and spoil their blooms, and this only for want of vigorous and healthy growth. Therefore plant your pæonies in a free situation, allowing them six feet in circumference, where no spade nor other garden tool may injure their roots, and these—the herbaceous kinds, for example—will attain a height of three feet and more; they will bear their flowers in the most conspicuous manner, and prove the most ornamental objects of the garden.—(*Gard. Jour.*, 1852, p. 612.)

STEPHANOTUS FLORIBUNDA.—When I state that this lovely stove twiner comes from Madagascar, it will be readily inferred that it likes a warm, moist temperature, to promote vigorous growth and secure an abundant display of its snowy white, deliciously fragrant blossoms; nevertheless, like many other plants which are natives of warm climates, when the wood is properly ripened, it may be wintered in a temperature very little warmer than that of an ordinary greenhouse; indeed, it is more easily accommodated in this respect than would be supposed, by persons having only for their guide the climate of its native country.

It may be propagated by short-jointed cuttings of the young wood, selected from flowering plants, if possible, in a half ripe state, planted in sandy peaty soil, covered with a bell-glass, and plunged in a brisk bottom-heat of about 85°, in which they will emit roots freely, and probably be ready for potting singly, in small pots, in the course of a month or six weeks from the time in which they were put in. They must be returned to bottom-heat after potting singly, and kept close and moist during the summer, and shifted as necessary. Cuttings got in early in March, and properly attended to during the summer, may easily be made into well-established plants, in 6-inch pots, in the course of the season. Winter them in a light, airy situation, where the temperature may range from 50° to 60°, and water cautiously and rather sparingly.

As early in spring as convenient, remove the young plants to a brisk bottom-heat of 80° or 85°, and maintain a close, moist, warm temperature, of from 70° to 75°. Any weak, straggling shoot, should be cut back, and the stronger ones shortened; and any of the plants that may have filled their pots with roots should be shifted,—a liberal shift being given to such as are vigorous and thriving. It is advisable, however, at this stage, to decide as to whether the plants are intended for planting out or flowering in pots, and also the sized specimen preferred. Well established plants in

8-inch pots may be shifted at once into 15-inch pots, which will be sufficiently large for the growth of very fine specimens, and training should be attended to before the young wood makes much progress. Light, round, wire trellises, eighteen inches across, and about four feet high, are the best for the purpose. If a liberal system of treatment is pursued during the summer, with a sharp bottom-heat, the plants will make immense progress, and will cover their trellises closely. Towards the middle of September, the atmosphere should be gradually kept rather drier, and the plants should be wintered in a dry, airy place, where the temperature may average about 55°. This treatment will ripen and harden the young wood, and prepare it for furnishing in the coming season a liberal display of blossom.

If it is wished to have the plants in flower early in the year, it will be necessary to replunge them in bottom-heat, say towards the end of March, and to treat them much the same as directed for last season, except that the atmosphere should not be kept moist; any shifting, of course, will not be required. When in flower, (with which the plants will be thickly covered if they have been properly managed,) they may be removed to the greenhouse, conservatory, sitting-room window, or to any other desirable situation where an average temperature of from 50° to 60° can be maintained. With judicious management in keeping the atmosphere rather dry, and avoiding the settlement of damp upon the blossoms, they will remain in perfection for many weeks; indeed, my own specimens of *stephanotus* usually retain their places in the conservatory for some two months at a time, and most attractive objects they are throughout this comparatively long period. I am, however, careful to keep them perfectly free from red spider, and to gradually prepare them for removal from a high, moist temperature, and also to afford them a close corner in the conservatory.

When their beauty is over, they should be loosened from their frames, the weaker shoots entirely cut out, and the length of the stronger ones greatly reduced. The plants should then be placed in bottom heat, maintaining, at the same time, a warm, moist, growing atmosphere, sprinkling overhead morning and evening, and supplying clear, weak manure-water, in order to induce them to break freely. If liberally treated in this way for six weeks or two months, the plants will make plenty of young wood, which must be ripened as directed for last year, when the specimens will flower as abundantly as in the previous season.

The *stephanotus* may be partially disrooted, when necessary, with little or no injury. The soil will probably be found to have become sodden and unkind by the end of the second flowering season, in which case the plants should be turned out of their pots, the sodden soil and decayed roots removed, and repotted in the same sized pots, unless it is desirable to have larger specimens, in which case they may be afforded the largest sized pots. Treated in this way, the specimens will last—I know not how long, for my oldest plant is still my most prolific bloomer. Good fresh turfy loam and peat, in about equal proportions, broken small, with a liberal mixture of sand, charcoal, or potsherds, form the most suitable compost for the growth of young plants. To the soil for plants that have been disrooted, I usually

add about one fifth thoroughly decayed cow-dung, passed through a fine sieve to clear it of worms.—(*Gard. Chron.*, 1852, p. 628.)

THE CINERARIA.—Flowering from Christmas to June, and forming handsome specimens for decorative purposes at a comparatively small expense, both as regards attention and accommodation; and also furnishing a profusion of finely-shaped many-colored flowers for bouquets, which the cineraria does, it well deserves to be, as it is, one of the most popular flowers of the day. It is of easy culture, and in most cases is well managed; but, nevertheless, in some instances where ample means exist, and also, doubtless, a desire to produce respectable specimens, it exhibits effects of the worst possible treatment. The following hints may enable such growers to produce creditable examples of this extremely useful plant. The ordinary method of propagating the cineraria is by root suckers, which are produced abundantly by plants after blooming, when placed in a shady situation and properly attended to with water. The old plants should be broken up as early in August as suckers can be had strong enough; the latter should be potted singly in 4-inch pots, and placed in a shady part of a cold frame till well established, which will be in less than a fortnight. The plants should then be placed near the glass, and receive abundance of air, with a view to secure "stocky" growth. During autumn, and until severe weather occurs, a cold frame will form the most suitable situation for promoting rapid growth; but some attention will be necessary—not to wet the foliage any more than can be helped, and also to avoid cold currents of air, which turn the leaves foxy, and greatly injure the plants. At the same time, however, admit sufficient air to prevent weakly growth. Water should be applied early in the day when necessary, giving a good soaking, and air admitted on the sheltered side of the frame, to dry the atmosphere and foliage. During autumn and winter the cineraria is somewhat liable to mildew, especially some varieties; keep, therefore, a sharp out-look for this enemy, and apply sulphur, the moment it appears, to the parts affected. Mildew is greatly encouraged by a confined, over-moist atmosphere, which is also very congenial to aphides, which will be sure to make their appearance under such circumstances. As soon as they are perceived, apply tobacco smoke; but if the plants are kept in good health, neither evil will be very troublesome. As soon as frost is likely to occur, the glass should be protected every night with straw screens, or some efficient covering; for, remember, the cineraria will not stand much frost, and neglect in covering may do irreparable damage. With respect to potting, the plants should be allowed plenty of root room until near their period of flowering, and they ought never to be pot-bound during the growing season. Liberal shifts may be given to healthy thriving plants, but weak varieties should not be over-potted. Specimens may have 10-inch pots at the second shift, which will be sufficiently large for the winter, and in March they may be moved into 12 or 15-inch pots, according to the sized specimens desired. The plants should be removed to the front of the greenhouse, or to some light, airy situation, where they will be secure from frost and damp. As before stated, keep them free from insects and mildew, and remove any

decaying leaves as they appear. When the flower-stems begin to elongate they should be pegged or tied out, so as to keep the specimens open for the admission of light and air, and manure-water will be highly beneficial at this stage. When the plants are in flower they should occupy an airy place, where they will receive abundance of light without being exposed to the full force of the forenoon's sun; but this applies only to plants flowering after the sun becomes powerful in spring. Those blossoming in winter, like full exposure to the little sunshine and light which can then be afforded them. Where specimens are wished to flower in winter, cuttings should be selected about April, planted in light sandy soil, placed in a temperature of about 55°, and grown as freely as possible during the summer and autumn, and allowed to become pot bound towards November, when, if placed in a temperature of about 50°, they will be found to flower freely, and will be exceedingly useful for furnishing cut flowers. Seeds sown in April, produce useful plants for winter flowering, as they grow more vigorously during the summer. When the beauty of the specimens is over, remove the flower stems, unless seed is wanted, and then only a few spikes need be left. Place the plants in a shady situation, and keep them clear of insects and properly supplied with water until a supply of suckers is obtained, when the old plants may be thrown away. Good fresh turfy loam, in the proportion of two parts to one of two years old cow-dung, well intermixed with a quantity of clean sharp sand, according to the nature of the loam, to ensure efficient drainage, forms an excellent compost for the cineraria. For small plants, leaf soil or sandy peat may be substituted for the cow-dung.—(*Gard. Chron.*, 1852, p. 727.)

POMPONE CHRYSANTHEMUMS.—I have a plant of *Rénoncule*, in a 12-inch pot, upwards of four feet through, and three feet high, and it has more than five hundred expanded and expanding flowers on it. It is also well clothed with healthy green foliage. This is the gem of all the pompones which I have seen. It is a free flowerer, and the blossoms are as double as those of the most double daisy.—(*Gard. Chron.*, 1852, p. 727.)

THE EPIPHYLLUM.—Many of the varieties of this genus deserve to be classed with the most beautiful and useful of ornamental plants; for under proper treatment their showy blossoms are produced very abundantly; and where it is desirable, they may be had in flower nearly the whole year round. Their culture, although simple, appears to be imperfectly understood by many, and others seem to esteem these truly interesting plants as worthy of no more attention than suffices to keep them alive.

They are increased by cuttings or by grafting; the latter method is adopted in the case of weak growing kinds, like the varieties of *truncatum*, which are supposed by many to flourish best when grafted on some strong-growing stock. I, however, prefer rooted plants of *truncatum* as well as of others, when dwarf, handsome specimens are wanted.

Select strong, firm pieces of the young wood for cuttings; for, although any part will emit roots, young shoots will be found to form the best plants. Lay the cuttings in a dry place, exposed to the sun for a day or two before planting, with a view to dry up the superfluous moisture. Insert them

singly, in small pots, well drained and filled with light, sandy soil, and plunge in a gentle bottom-heat in a close warm pit or frame, and water very sparingly until they have become rooted and have started into growth. When well established in their pots, shift into others a size larger; and about a fortnight after shifting, remove the plants to a situation near the glass, where air can be freely admitted on favorable occasions, and where the temperature may average about 65°, which will be found more conducive to strong, vigorous growth, than a high, moist temperature. A moderate supply of water, sprinkling overhead on the evenings of bright days, and stopping any over-groes shoot, so as to secure compact, well-formed plants, are all that will be required during the summer. Early in autumn, the supply of water should be gradually lessened, and the plants fully exposed to sunshine, to mature and ripen their growth.

A light airy situation in the greenhouse will suit them during the winter months, and at this season very little, or no water, should be given to the soil. At the end of the first season, the plants ought to be nice compact specimens, capable of producing a good display of blossom; but unless they are wanted for small decorative plants, they should not be allowed to flower until the following season. Early in March, place them in a moist growing temperature of 55°, allowing it to rise 10° or 15° with sun heat; water liberally with tepid water, to bring the soil into a moist, healthy state; shift into larger pots as may be necessary, and keep the plants growing briskly until September, when they should be prepared for winter, as directed for last season. If the wood is properly matured, and the plants given a season of rest, by water being withheld, &c., as already directed for the winter, they will produce an abundant display of blossom at any season they may be introduced into a gentle heat, and few plants are more useful or easily managed for winter forcing.

Plants intended for forcing should be started early in the season, and if portions are grown at intervals during the spring and summer, ripened, and wintered, there will be no difficulty in keeping up a succession of bloom from January to July. A situation in an early vinery, pit, or elsewhere, with a moist atmosphere, and a temperature of from 50° to 60°, will answer for forcing them. Portions should be introduced at intervals of about three weeks, and those to flower late must be retarded by being kept in the coldest part of the greenhouse, and quite dry. While in bloom, the plants should occupy a rather cool, dry atmosphere, as the flowers will last longer under such circumstances than in a high, moist temperature. When the beauty of the flowers is over, thin full-sized specimen plants severally, cutting out any old shoots that can be spared, and weakly young shoots, so as to lighten the specimens and make room for the young wood, and preserve the desired form. The plants had better be allowed a fortnight, in a cool place, to recruit their exhausted energies, before placing them in heat, especially such as may have been forced early; and such plants that are full grown need not be kept in heat longer than is necessary to secure sufficient young wood to afford a good display of blossom.

The varieties of *truncatum* are better adapted for autumn and winter

flowering than any of the others, as this is their natural season of blooming, and they are easily managed and amongst the showiest objects in our stoves during the dull winter months. These naturally start into growth early in spring, and they should be encouraged by a sharp, moist heat, as they are weakly growers, and ought not to be stowed away in a cool greenhouse after flowering, as is sometimes done.

The most suitable soil for the epiphyllum is light, sandy, turfy loam, and good turfy peat, in the proportion of three-fourths of the former to one of the latter, nicely broken up and mixed with sufficient sharp sand to keep it porous, and ensure free drainage after the decay of the fibre. When the specimens attain a large size and occupy pots as large as it is convenient to afford them, they should be liberally supplied with clear, weak manure water, during the growing and flowering seasons, and the pots may be surfaced with rich compost; this will afford sufficient nourishment for years. Light iron frames, fixed to the pots, form the best supports for training on; these are easily moved with the plants in case of repotting, and are not always breaking, as wooden stakes thrust into the soil are.—(*Gard. Chron.*, 1852, p. 677.)

MANDEVILLA SUAVEOLENS—In a recent visit to the Botanic Gardens at Montpellier, I observed *Mandevilla suaveolens* growing over a trellis as a hardy climber. With a view to test the severity of the winter, I inquired what species of *Passiflora* flourished under similar treatment, and learnt that none but *P. cærulea* would live there out-of-doors; all others which had been tried had been killed by frost in winter. On my remarking that *P. cærulea* flourished in England, the gardener assured me that *Mandevilla* was decidedly more hardy; and that where *P. cærulea* flourished, he had no doubt *Mandevilla* would equally. In accordance with this statement, I observe that a branch of *Mandevilla* which has grown out through the roof of my greenhouse is this day (October 18) in perfect flower, having been exposed, about ten days ago, to a frost which injured French beans, *Convolvus major*, caused the leaves of Mangold Wurzel to droop, and so damaged flowers of *Passiflora cærulea* against a wall, that they did not expand. I should remark that the greenhouse is span-roofed, so that the *Mandevilla* was exposed both to wind and radiation without any protection whatever. I mention this to induce others to try *Mandevilla*, as I intend to do, next year, against a wall where *Passiflora* flourishes. I may add that the frosts at Montpellier are occasionally so severe that *Cupressus lusitanica* was severely injured, and oranges and olives killed outright. On the other hand, from the heat of the summer, *Nelumbium* both flowers and seeds in a tank in the middle of the garden.—(*Gard. Chron.*, 1852, p. 677.)

FRUIT ROOM.—Our fruit room is the upper room of a square building against the garden wall, and over the tool-house. An inside stair leads from the tool-house up to the fruit room. The dimensions of it are nearly as follows, 16 ft. by 14 ft., and about 8 ft. high. Around the sides are shelves, made of narrow slips of wood, rough from the saw, about 2 inches wide, having fully half an inch between every one. The floor is very open,

being laid down a few years ago with Huntingdon willow timber before being properly seasoned. It having now become well dried, and having large openings between every board, admits a free current of air by opening a trap-hole (of 3 ft. by nearly 2 ft.) over head in the fruit room, which is quite close up to the roofing, composed of small slating, and very open, the air always passing through it quite as much as in any tile roof. The tool-house floor is of the same material as the fruit-room floor; there is under it a lumber store-room of some 7 to 8 feet high. This building stands quite away from any other, against the east side of the garden wall, and the roof meeting at a centre. Thus much for position. It is lighted from two windows on the east side; these are close to the flooring, each $2\frac{1}{2}$ feet by 3 feet. Being so low, the light is never very strong; but I do not look upon this as being necessary. Even less light than is admitted here would be quite sufficient for the purpose. This is an old building, fitted up a few years ago. Owing to this part of the country being always so very damp, especially in winter, I suggested this high and airy place being tried as a fruit-room, and from the trial made, it seems to answer better than the one on the ground floor, where the walls in damp weather were always hanging full of moisture like large drops of dew. This has not been a good season for apples here, many of the fruit became decayed and blotchy while on the trees; however, those that were sound and good when gathered are as yet appearing to keep well. Pears have this season proved a better crop than in general. A number of young trees have produced fruit for the first time.—(*Gard. Jour.*, 1852, p. 724.)

ROSES.—The following remarks on the classification of the rose, with a description of their signs of distinction, may perhaps be of some interest to your readers. They are from the *Garten und Blumen Zeitung* :—

M. Carriere divides Roses into seven main classes :—

1. Perpetual or Portland Roses.
2. Hybrid Perpetuals from Portland.
3. Hybrid Perpetuals from Bourbon.
4. Bourbon Roses.
5. Noisette Roses.
6. Bengal Roses.
7. Tea Roses.

Signs of Distinction.

Class 1.—*Perpetual or Portland Roses* have fine short thorns, which appear very close together, cover the branches almost entirely, and give them a brownish appearance. The branches grow erect. The flower-stalks are short and stiff, and each of them supports usually one flower, which has a somewhat lengthened calyx. For example: Duchesse de Rohan, Julie, Krudner, Bernard, Favorite, and others.

Class 2.—*Hybrid Perpetuals*, from Portland.—These produce erect growing branches, and are covered with hard thorns, which vary in size and strength. They assume the same growth as the Portland Roses, have likewise a lengthened calyx, but on the top of the branches there are some-

times one, three, or seven flowers, forming a stiff and erect bouquet. *Rose de Quatre Saisons* may be taken as the type of their growth and their flowers; also *La Reine*, *Baronne Prevost*, *Jaques Laffitte*, *Madame Laffay*, *Duchess of Sutherland*, *Amandine*, *Louis Bonaparte*, *Clementine Seringe*, *Gloire d'Angers*, *Comte de Montalivet*, &c.

Class 3.—Hybrid Perpetuals, from the *Ile-Bourbon*.—It seems that plants of this class keep the balance between *Perpetual* and *Bourbon* kinds: they approach, however, in appearance more to the latter. The sepals of the calyx are generally very strongly fimbriated. The rounded form of the calyx is also another sign by which they may be distinguished from the *Portland* hybrids. An irregular and intricate position of the branches gives them a peculiar appearance. Examples are *Clementine Deval*, *Comte de Bobinski*, *Ernestine de Barante*, *Colonel Foissy*, *Géant des Batailles*, *Vicomtesse de Belleval*, &c.

Class 4.—Bourbon Roses.—The wood of these is smooth; their branches are sometimes short, terminating with a single flower. But the buds of some kinds are strong, and produce vigorous shoots, on the tops of which appear from three to twelve flowers. The thorns at the base are strong, curved, and placed at some distance from each other. The sepals are oval, rounded, strong, fimbriated, smooth, and dark-green. The calyx is rounded. It often happens that the branches of some kinds in this class grow horizontally. Examples: *La Reine des Ile-Bourbon*, *Madame Desprez*, *Charles Souchet*, *Paul Joseph*, *Souvenir de la Malmaison*, *Souvenir du 4 Mai*, *Remond*, *Mrs. Bosanquet*, &c.

Class 5.—Noisette Roses.—Their foliage has much resemblance to that of the *Tea Roses*, but their branches are more vigorous, much longer, and terminated by numerous flower-buds. The bark of the branches is smooth and thorny. Examples: *Lamarque*, *Ophyrie*, *Aimée Vibert*, *Rose Mille Ecus*, *Noisette Desprez*, &c.

Class 6.—Bengal Roses.—In this class the branches are nearly without thorns, the bark is smooth, the sepals are more or less prolonged and fimbriated, the branches seldom bear more than one flower. The calyx is rounded, the flowers have nearly always color, whilst those of the *Tea Roses* (with which this class is in close relationship) are, with few exceptions, pale white or yellowish. It is also to be observed, the flowers of the *Bengal Roses* are very seldom scented. Examples: *Bengale Ordinaire*, *Cramoisie Supérieure*, *Prince Eugène*, *Eugène Hardy*, *Beaucarmin du Luxembourg*, *Augustine Hersan*, &c.

Class 7.—Tea Roses.—The branches have a very smooth bark, and have not many thorns. The leaves are glossy, and the flowers appear on the top of the branches, which are slender and not very long. In most cases the weight of the flowers bends the branches, so that only their under-side is seen. Vigorous examples produce sometimes stronger shoots, which are not so flexible, and bear three or often five flowers on their end, as *Devoniensis*, *Safrano*, *Souvenir d'un Ami*, *Vicomtesse Decazes*, *Elisa Sauvage*, *Burès*, *Goubault*, *Moïré*, &c.—(*Gard. Jour.*, 1852, p. 724.)

PLANTS FOR PILLAR-DECORATION.—Experience of the usefulness of

the common Heliotrope (*Heliotropium peruvianum*) enables me to come forward as its advocate ; and I can justly place it foremost in the rank of plants for adorning pillars, wires, or any other suitable situation of a cool conservatory where a graceful pyramidal appearance would be deemed an acquisition. Few lovers of plants and flowers pass through our conservatory without granting their tribute of praise on the subject under notice, which runs up a pillar to the height of fourteen feet, and about three feet diameter at the base, tapering in its upward progress to a couple of leading shoots, forming a pyramid of pendent branches, with clusters of flowers hanging gracefully from the extremities of each of them. I find it requisite to pinch all the laterals proceeding from last year's growth of the leader, or any other strong shoot protruding without the boundary ; it induces them to throw out a number of a weaker stump or flowering shoots, checking their vigor and benefiting those underneath, by directing the current of sap to them : and from their spurred nature from repeated prunings they break with more shoots than are required : the weakest should be weeded out, to allow the others the benefit of the sun and air, when they will shoot out rapidly and produce that much-admired form, the pyramid. The usefulness of this plant for the conservatory or cut bloom may be best understood when I say, that during nine months of the year it is covered with bloom. I believe it would prove perpetual were pruning not requisite to keep it in form. That operation is performed in the beginning of March ; a few weeks after, it is covered with a lively green, and its growth encouraged during that season with frequent waterings of liquid manure, which are discontinued in August. After that time the plants placed upon the soil wherein it grows supply it plentifully with the water that has passed through them ; and the increasing moisture of the atmosphere and withdrawal of sun-heat make its wants more moderate. An interesting companion opposite to it—in habit and foliage resembling it very much, whilst in the color of the flowers it forms a decided contrast—is the lovely and rich scarlet-flowered *Salvia gesneriflora*. Under the same treatment as the Heliotrope it thrives equally well, and flowers abundantly during the winter and spring months. *Sollyea linearis*, covering a third pillar, may be classed next it in usefulness for cut bloom, but it is inferior to none of the former in exhibiting a graceful habit, densely studded over with its lovely blue blossoms. It is said to grow best in a mixture of peat and sand ; here it grows and flowers freely in the border mixture, which originally was loam and leaf mould, but all traces of the latter are gone. The fourth pillar is covered with *Cytisus racemosus*, with its evergreen garb and fine spikes of yellow bloom, imparting a cheering influence in a dull period of the year. The time required to cover the pillars might be raised as an objection to the use of such slow-growing plants as recommended above. The same objection is applicable to our finest exhibition plants ; and who grudges the few years spent in bringing them to that acmé of perfection, as seen in the specimens which adorn the show tables of our metropolitan exhibitions ? Or it might be got over by planting a late and rapidly-growing *Fuchsia* at

a considerable distance from the pillar, where its roots may not interfere with those plants which are to remain, and carrying its stems under ground to the bottom of the pillar, clearing its branches away, as they clothed the part under it. When covered it might be removed, or better allowed to remain, when it will form a fine umbel and showy head of bloom during the summer and autumn months.—(*Gard. Jour.*, 1852, p. 724.)

EARLY BULBS.—Through the medium of your Calendar, and other sources of information, the attention of amateurs and forcing gardeners has been directed to the importance of procuring and potting their bulbs for early forcing. The London nurserymen and seedsmen, to meet this demand and accommodate their customers, have urged the Dutch growers to forward them earlier than usual, and the consequence is that now, instead of receiving the bulbs in October, it is not unusual to see them here in August, or even the end of July. Now, it cannot be denied that early potting or planting is one of the main hinges of success in forcing bulbs for Christmas decoration, but whether early potting means the end of July or the middle of September, is a matter worth defining. We all know, at least every gardener ought to know, that the great desideratum in bulb management is to have them thoroughly matured, first by the full exposure of the foliage to light and atmospheric influences until it dies off naturally, and secondly by slowly drying and ripening the bulbs afterwards until they are as firm and solid as possible. Upon this thorough ripening, much more of the success of early forcing and strong flowers depends than upon premature ripening and potting. I say "premature ripening," because I believe, in fact I have had the information direct from some of the principal growers in Holland, that to meet this early demand a portion of the bulbs has to be taken up before their growth is completed; and hence, though early, they are immature, and consequently do not contain the elements of early and vigorous development.

It may be argued that the early imported bulbs are properly matured, to which I reply, test them. Take a dozen bulbs in the end of July, weigh them, and then let them remain in the sun-scorched and gas-heated seed-shop window, and in a fortnight they will have lost one-third of their weight, and will in consequence have quite a shrivelled appearance. Submit a similar quantity of later imported bulbs to the same test in September, and they will scarcely be injured at all. Let me not, however, be misunderstood; for while I am desirous of pointing out the impropriety of importing bulbs very early, I do not wish to run to the old extreme of very late importations. For my own part, I am quite convinced—and I force many hundreds annually—that thoroughly ripened bulbs potted by the beginning of October, and properly treated afterwards, are superior for blooming at Christmas to those imported in July; in fact, having more true sap stored up, they will produce finer spikes of bloom than the early imported bulbs possibly can do.

Few plants pay better for good treatment than early bulbs, and they delight in good rich soil, such as mellow loam and fresh horse-dung sweated

together and afterwards well aerated, mixed with about one-third of perfectly decomposed three-year-old cow-dung, and plenty of gritty sand. Thus potted and placed in a frame, if upon a spent hot-bed all the better, and covered 6 to 12 inches deep with old tan or ashes, and fully exposed, except to drenching rains, they will soon fill the pots with roots and be fit to introduce to the forcing-house the beginning of November. Bulbs should not be selected for their size, but for their weight and solidity; a small bulb that is heavy and firm, especially about the point of growth, will produce a much finer flower than one double the size, but soft and scaly; and hence it is not right to estimate bulbs by their size, so much as by their weight and proper maturation.

In making the above remarks my object is to check the early importation of bulbs, by showing purchasers the impropriety of buying them. Bulbs imported early should be kept cool and in the dark; and if you wish to have good flowers, avoid those that have been exposed in seed-shop windows.—(*Gard. Chron.*, 1852, p. 548.)

THE MANETTI ROSE.—Some eight or nine years ago I planted two borders with pillar Roses, principally of varieties of hybrid China and hybrid Bourbon; many of these were budded on the Manetti, the remainder on the Dog Rose; they were not marked but planted indiscriminately, and all about the difference in the stocks entirely forgotten till some time about the end of last July, when I was attracted by the extremely vigorous growth of many of the Roses in question, in contrast with others in the same borders; this led to examination and inquiry, when I found that all, or nearly all, of these vigorous growing Roses, were budded on the Manetti Rose, the others on the Dog Rose. The former are from 7 to 8 feet in height, and among them are the following sorts: Baronne Prevost, Charles Duval, Legonné, Parigot, &c. They are now 10 years old, and the union of the bud with the stock is so perfect as scarcely to be distinguished. Surely this is evidence enough as to the durable quality of this stock; but why should it be otherwise, will Messrs. Lane and Paul say? Is not the Manetti a hybrid China Rose? and are not all our finest autumnal Roses of the same race? The transition must therefore be less than when a bud of a hybrid Rose is placed in a Dog Rose stock. I ought to add, that the pillar Roses, above described, are growing in a cold wet soil on a subsoil of clay. I have hitherto thought the Manetti better adapted to light sandy soils, in which I have always observed it to succeed admirably. I was particularly struck this summer with a bed of the Rose Géant des Batailles, in the garden of Mr. Mickle, of Folkestone. The plants are three or four years old, and most vigorous and beautiful. Two or three plants in the same bed are on the Dog Rose; the contrast is most remarkable. Now, the soil at Folkestone is so light and sandy that Roses on the Dog Rose seldom or never succeed well. The Manetti Rose stock requires some attention as to the time of budding, and care in not giving it too rich a soil, &c. I remember finding some little difficulty in its management at first; and so I think it will be well for the above-named gentlemen, my good friends and neighbors, to come here and serve a sort of apprenticeship.

I shall require only a moderate premium; if they are teachable and docile I will treat them kindly; and when they know how to manage this stock as well as I do, they will think it as great a boon to the Rose-grower as all those who know it well are inclined to do; and they will then, I am sure, leave off "evil speaking" about this poor Rose. How beautiful at this moment are the following Roses budded on it: Standard of Marengo, Duchess of Sutherland, Baronne Prevost, Béranger, Caroline de Sansal, Baronne Haliez (the most perfect and beautiful Rose ever seen,) Géant des Batailles, &c. In conclusion, I may mention that I have just been looking at some Manetti stocks, trained for standards; these made shoots, last year, 8 feet in length; they are this season fastened to stakes, have not been pruned, and are swelling rapidly. Owing to improved agriculture we shall lose our Hedge and Dog Briars, and then for standard Rose stocks.

When all our Briars are "gone and spent,"
Manetti will be excellent.

(*Gard. Chron.*, 1852, p. 565.)

ART. II. *Foreign Notices.*

ENGLAND.

DAHLIAS AND DAHLIA EXHIBITIONS OF 1852.—The season just closed has been a highly favorable one for dahlia cultivators in England; and the exhibitions have been not only exceedingly fine, but have attracted great attention. Indeed, the taste for this splendid autumnal flower has in no wise abated; on the contrary, there seems to be renewed attention given to its cultivation and the growth of new seedlings. By the liberality of Messrs. Turner, Keynes, Bushell, and other nurserymen and florists, numerous prizes, from £1 to £5 each, have been offered to amateurs, which has greatly increased the number of cultivators, and infused fresh zeal into the older ones.

The season with us has been far more favorable than that of 1851. The summer was exceedingly dry; but the moist, cool and prolonged autumn, without frost, brought forward the plants rapidly; and for four weeks, we never saw a finer display of flowers. The varieties of two years have thus been crowded into one; for last year scarcely a new variety produced a flower. As much as the dahlia has been improved, the newer ones are, far in advance of those of former years. One would indeed suppose the difference could not be so great; but a comparison of the two will show the difference.

From the following awards at some of the leading societies around London, the amateur will see at once what are the leading flowers:—

ROYAL SOUTH LONDON.—Best twenty-four: John Edwards, Snowflake, Toison d'Or, Queen of Yellows, General Fauchier, Mrs. Seldon, Wellington, Fearless, Seraph, Essex Triumph, Goliath, Nil Disperandum, Triumphant,

Morning Star, Queen of Wales, Edward Forster, Sir R. Peel, Elizabeth, El Dorado, Mr. Seldon, Napier, Mrs. Ashby, Sir R. Whittington, and Mrs. Herbert,—to Mr. Drummond, Bath.

SALISBURY HORTICULTURAL FETE.—Best twenty-four: General Fauchier, John Edwards, Seraph, Fearless, Mr. Seldon, R. Cobden, Annie Salter, Sir F. Bathurst, Princess Radzville, Douglas Jerrold, Malvina, Yellow Standard, Essex Triumph, Miss Chaplin, Negro, Duke of Cambridge, Eirene, Mr. Herbert, Model, Sir R. Peel, George Glenney, Queen of Beauties, Sir F. Bathurst, Morning Star, El Dorado, and Seedling,—to Mr. J. Keynes, Salisbury.

NORTH LONDON FLORICULTURAL.—Best twenty-four: Princess Radzville, Negro, Douglas Jerrold, John Edwards, Queen of Whites, Mr. Herbert, Malvina, General Fauchier, Sir F. Bathurst, Una, Essex Triumph, Annie Salter, Mr. Seldon, Magnificent, Standard of Perfection, Fearless, Sir R. Whittington, Wellington, Queen of the East, Sir R. Peel, Beauty of Kent, F. Jerome, Goliath, and Triumphant,—to Mr. J. Keynes.

DAVENTRY HORTICULTURAL AND FLORAL.—Best twenty-four: Earl of Clarendon, General Fauchier, Toison d'Or, Queen of Lilacs, Negro, Mrs. Seldon, Ambassador, Seraph, Sir C. Napier, Mr. Seldon, Marchioness of Cornwallis, R. Cobden, Mrs. Hansard, Privateer, Admiral, Sir F. Bathurst, Lady Granville, Duke of Wellington, Essex Triumph, Roundhead, Jenny Lind, Grenadier, Yellow Superb, and Princess Radzville,—to Mr. Holliday.

GRAND DAHLIA SHOW AT EDINBURGH.—Best twenty-four: Plantagenet, General Fauchier, Queen of Dahlias, Princess Radzville, George Glenney, Mr. Seldon, Sir C. Napier, Andromeda, Princess Louisa, Bob, Miss Speers, Malvina, Grant's Gem, Thames Bank Hero, Yellow Standard, Essex Triumph, Queen of Beauties, Mr. Herbert, Sir F. Thesiger, Lady E. Cathcart, Sir R. Peel, Seraph, Beauty of Versailles, and Sir John Franklin,—to Mr. C. Turner, Slough, the Silver Cup; value, 5 sovereigns.

TROWBRIDGE GRAND HORTICULTURAL AND FLORAL.—Best twenty-four: Mrs. Seldon, R. Cobden, Douglas Jerrold, General Fauchier, Madame Gaubert, Anticipation, Nero, White Defiance, Morning Star, Fearless, Annie Salter, Goliath, Sir F. Bathurst, Miss Chaplin, John Edwards, Alice, Nonpareil, Princess Radzville, Una, Model, Magnificent, Duke of Cambridge, and Hon. Mrs. Herbert,—to Mr. Keynes, the silver cup, (5 guineas.)

FANCY.—The interest in this class is increasing, and the varieties, both for novelty of color and form, have been greatly improved, so that they now fully equal the old show kinds. The following are the prominent flowers in the winning stands:—Mrs. Hansard, Phaeton, Lady Grenville, Emperor de Maroc, Miss Weyland, Glorie des Keynes, Flora McJur, Elizabeth, Miss Compton, Miss Bathurst, Jetty Trefftz, Madame Bresmi, Jenny Lind, Mrs. Willis, Charles Perry, Duchess of Sutherland, Princess Charlotte, Maid of Lodi, Kingfisher, and La Jeanette. Mrs. Hansard received an extra premium, as the *best* fancy variety in the whole exhibition.

SEEDLINGS.—Certificates were awarded to Mr. Turner, for Plantagenet, Bob, and Sir J. Franklin: to Mr. Keynes, for Lilac King and Wonderful: to Mr. Raulings, for Brilliant.

ART. III. *Horticultural Societies.*

ALBANY AND BENSSLAER HORTICULTURAL SOCIETY.—The autumnal exhibition was held on the 13th and 14th of September, in Albany,—Dr. Wendell in the chair: who, in some appropriate remarks, called the attention of the members to the death of Mr. Downing, and offered some resolutions expressive of the sense of the meeting, which were unanimously adopted.

The reports of the committees are given at length, but we only have room for a brief abstract:—

FRUIT.—Col. Rathbone exhibited nine varieties of grapes, the best ever shown before the society; also peaches, pears, &c. Dr. H. Wendell, 49 varieties of pears, (not for competition,) including several rare kinds. Ellwanger & Barry, Rochester, 53 var. of pears. Willson, Thorburn & Teller, 53 var. of pears, and several of apples, peaches, &c. Fine collections of pears, and other fruits, came from J. D. McIntyre, J. S. Goold, V. P. Douw, L. Menand, H. T. E. Forster, J. Mayall, E. C. McIntosh, E. E. Platt, R. H. Hart, J. J. Thomas, Macedon; J. Moore, Cayuga Bridge; Hon. A. J. Parker, B. B. Kirtland, E. Corning, Jr., E. Wood, and others. The following is the award of some of the principal prizes:—

PREMIUMS.

Apples.—For the best and most extensive collection, Wilson, Thorburn & Teller, \$3 00.

Pears.—For the best and most extensive collection, Wilson, Thorburn & Teller, \$3 00.

For the best six varieties, to Jefferson Mayell, for Louise Bonne of Jersey, Bartlett, Seckel, White Doyenné, Belle Lucrative, and Beurré Gris d'Hiver Nouveau, \$2 00.

Peaches.—Best and most extensive collection, Willson, Thorburn & Teller, \$3 00.

Best three vars., to Joel Rathbone, for George IV, Bergen Yellow, Red Rareripe, \$0 00.

Plums.—Best and most extensive collection, E. Dorr, \$3 00.

For best six vars., to E. Dorr, for Jefferson, Red Gage, Imperial Gage, Dorr's Seedling, Washington, Deniston's Superb, \$2 00.

Grapes, foreign, (open culture.)—Best two vars., to John S. Goold, for Zinfindal and Sweet Water, \$2 00.

Grapes, foreign, (under glass.)—Best exhibition, to Col. Rathbone, \$3 00.

Watermelons.—Best two vars., to Col. Rathbone, for Black Spanish and Ice Cream, \$3 00.

Muskmelons.—Best one variety, to J. Mayell, for Green Citron, \$1 00.

FLOWERS.—The show was extensive and fine. Mr. E. M. Van Alstyne exhibited 81 var. of dahlias. J. Wilson, 40 var. of verbenas, and many other flowers. Col. Rathbone, 42 var. of dahlias, &c., &c.

PREMIUMS.

Dahlias.—For the best display, to E. M. Van Alstyne, \$3 00.

For the best twelve varieties, to E. M. Van Alstyne, for Mount Blanc,

Princess Radzville, Beauty of Kent, Prince Albert, Elizabeth, Star, Summit of Perfection, Col. Baker, Marquis of Aylesbury, Miss Vyse, Hypolite, and Triumph de Kestrick, \$2 00.

Roses.—For the best ten varieties, to L. Menand, for Geant des Batailles, Princess Clementine, Mad. Desprez, Le Grenadier, Souvenir des Desire, La Reine and Jupiter, \$2 00.

Phloxes.—For the best ten varieties, to L. Menand, for Alba Perfecta, Princess Marianne, Anais Chauviere, Surpasse Martin, Laurentia, Fleur de Marie, Standard of Perfection, Lausauteur, \$2 00.

German Asters.—For the best display, to Mr. Newcomb, \$2 00.

For the best vase bouquet, round one, to Jas. Wilson, \$2 00.

For the best flat one, to Jas. Wilson, \$2 00.

For the best and most beautiful pair of hand bouquets, one round and one flat, to Jas. Wilson, \$2 00.

For the best basket bouquet, to Mrs. Emily Newcomb, of Pittstown, \$2.

For the best and most appropriate floral design, to Mrs. Newcomb, of Pittstown, \$3 00.

VEGETABLES.—The display of these was also excellent: Messrs. Rathbone and Corning sending fine collections.

AMERICAN INSTITUTE.—The fair of this institution closed on the 30th of October. It has been one of the most successful ever held: the total receipts are estimated at \$25,000. The show of fruits and flowers was much better than heretofore, and in a year or two will compare favorably with societies exclusively horticultural.

The following are the principal prizes in the Horticultural department:—

To J. W. Bailey, Plattsburg, N. Y., for apples, silver cup, \$8.

To W. S. Carpenter, Westchester, N. Y., for fruit, silver medal.

To Hovey & Co., Boston, for pears, 175 varieties, silver cup, \$8.

To J. Briggs, Jamaica, L. I., for pears, silver medal.

To W. A. Underhill, Croton, N. Y., for quinces, silver medal.

To J. Pillson, Ulster Co., N. Y., for cranberries, silver medal.

To McIntosh & Co., Cleaveland, O., for fruit, silver cup, \$8.

To R. S. Underhill, for grapes, silver medal.

To R. L. Colb, Patterson, N. J., for foreign grapes, silver medal.

To J. P. Giraud, Jr., Bergen, N. J., roots for cattle, silver cup, \$8.

To M. Donadi, Astoria, L. I., for roses, silver medal.

To J. Cranston, Hoboken, N. J., for flowers, silver medal.

To G. C. Thorburn, Astoria, for dahlias, silver cup, \$15.

To M. Donadi, for dahlias, silver cup, \$10.

To J. Shaw, New York, for dahlias, silver medal.

To T. Dunlap, for dahlias, silver medal.

To M. Donadi, Astoria, for flowers, silver cup, \$8.

To J. A. Henderson, Middle Village, L. I., for bouquets, silver cup, \$8.

To J. Cranston, for bouquets, silver medal.

To T. Cavanaugh, New York, for flowers, silver medal.

NEW YORK STATE AGRICULTURAL SOCIETY.—The Fair at Utica was well attended, and the show of fruit was one of the best ever made by the

society. Peaches were not numerous, but the pears were large, ~~brilliant~~ and in good variety. The principal premiums were awarded as follows—

FRUIT.—AMATEUR LIST.

Apples.—Best 20 varieties, to N. & E. S. Hayward, Brighton, ~~Mass~~ County, \$10.

2d best, to J. H. Shervill, Hartford, Oneida Co., \$7.

Best 10 var., to H. R. Hart, Oneida Co., \$2.

2d best, to J. H. Shervill, \$5.

Pears.—Best 12 var., to H. Vail, Troy, \$8.

2d best, to P. Brintnall, Utica, \$6.

Best 6 var., W. R. Coppock, Buffalo, \$5.

2d best, Wm. Tracy, Utica, \$3.

Collection of Pears.—Henry Vail, Troy, 70 var., Hovey's Colored Fruits of America.

PROFESSIONAL LIST.

Apples.—Best 20 var., A. Frost & Co., Rochester, \$10.

2d best, to T. C. Maxwell & Co., Geneva, \$7.

Best 10 var., to J. Morse, Cayuga Bridge, \$8.

2d best, to Thorp, Smith, Hanchett & Co., Syracuse, \$6.

Pears.—Best 12 var., to Ellwanger & Barry, \$8.

2d best, to J. Morse, \$6.

Best 6 var., to T. C. Maxwell & Co., \$5.

2d best, to J. Morse, \$3.

Foreign Fruit.—Best collection, 104 var. of pears, silver medal.

ART. IV. *Massachusetts Horticultural Society.*

Saturday, October 16th.—An adjourned meeting of the Society was held to-day,—the President in the chair.

Dr. J. C. Warren was elected a member. Adjourned three weeks, to November 6th.

October 23d. Exhibited.—From the President of the Society, pears—Urbaniste, extra superior, Waterloo. From Hovey & Co., pears—Swan's Orange, Triomphe de Jodoigne, Doyenné Gris, Princesse Marianne, Poire d'Albret, Fulton, Capsheaf, Beurré Sterkman, Grand Soleil, Brown Beurré, St. Michael Archangel; grapes—Clinton, Catawba. From J. Prichard, grapes—Muscat of Alexandria, Frankindale, Syrian, Black Hamburg, very fine. From J. Cass, grapes—Isabella. From J. C. Holmes, Michigan, 20 varieties of pears. From R. M. Morse, pears—Duchesse, superior. From H. Vandine, pears—Napoleon, Pratt's Bergamot, and 8 other var.; quinces—Portugal; apples. From George Walsh, pears—7 var. From R. Rogerson, grapes—Isabella, Catawba. From J. J. Stimson, pears—St. Michael, superior, extra. From H. Plympton, Boston, pears—St. Michael, very fine. From A. W. Stetson, pears—Beurré Diel, fine. From B. Har-

ington, pears—Fulton; apples with blossoms on the same stem. From A. Bowditch, pears—St. Michael. From H. Davenport, Roxbury, pears—Van Leon le Clerc, fine. From J. W. Foster, pears—Beurré Bosc, very fine; Wilkinson, fine. From Isaac Fay, pears—Seckel.

From W. C. Strong, grapes—Damascus, Muscat of Alexandria, Black Frontignan, Black Hamburg, Syrian, White Frontignan. From S. Dwyer, Jr., pears—Beurré Bosc, Van Mons Leon le Clerc, Marie Louise, Bezi de la Motte, Heathcot, Gansell's Bergamot, Napoleon, Beurré d'Anjou, Madotte, Urbaniste, Duchesse, Fulton, Louise Bonne of Jersey. From Mrs. L. Spaulding, apples—4 var.; pears—6 var. From M. P. Wilder, pears—St. Michael, very fine, received from J. H. Watts, Rochester, N. Y. From J. Brown, Lynn, apples—Hawthornden, Seaver Sweet, Hubbardston, Bellflower, Minister, Lyscom; pears—Fulton, and Althorp Crassanne.

Fruits tested.—From J. S. Cabot, pears—Excellentissima. From Hovey & Co., pears—Swan's Orange, Howell, superior; Beurré Benoits, very fine; Doyenné de Fais, fine; Triomphe de Jodoigne, very fine; Oswego Beurré, Grand Soleil: grapes—Clinton.

HORTICULTURAL OPERATIONS

FOR DECEMBER.

FRUIT DEPARTMENT.

THE continued open weather of November has been favorable to all outdoor operations: a better fall for transplanting has rarely been experienced, and if advantage has been taken of it, much work, which in severer weather would have to be put off till spring, may have been accomplished. If the season continues open this month, planting may still go on; but do not neglect other work. Protect all half-hardy things, such as grapevines, raspberries, &c., and give every fruit tree a good liberal manuring, which will serve the double purpose of enriching the ground and protecting the roots from severe cold.

GRAPE VINES in the vinery and cold houses may now be pruned, cleansed, washed, and put in order for the spring; those in the cold houses, protected from frost by laying down and covering with straw, leaves or mats. Cover the borders with three inches of manure if not yet done. Vines in the open air may be pruned now; it is the best season to do this.

STRAWBERRY BEDS should be covered if not already done.

RASPBERRY VINES should also be protected by a slight covering of manure or earth.

FRUIT ROOM.—Look after this in cold, sharp weather, and if danger of frost, cover well with mats or hay.

SCIONS may now be cut and preserved in the cellar or any cool place, half buried in sand or soil.

LABEL and name all fruit trees, where the old ones are so defaced as likely to be unintelligible by spring.

FLOWER DEPARTMENT.

The greenhouse in December, though less gay than either of the winter months, may be rendered very attractive under the care of an active, thinking gardener. It will not do to wait till the month arrives, if we expect a good show of flowers, but early preparation must be made, that a succession of plants may be on hand to take the place of those done blooming. As the Chrysanthemums go out, other things should be brought in, and, by judicious management, a fine display of pretty things may be made all the month. *Gesnera zebrina*, *Epiphyllums*, *Euphorbias*, monthly Pinks, *Lonicera tryginum*, *Salvia fulgens*, &c., are all handsome plants at this season. Some of them, brought into the warmest end of the house, will soon expand their flowers. Such plants as require repotting should now be attended to.

CAMELLIAS will be well in flower by the close of the month. Water liberally, syringe occasionally, and look over and bring into good shape all crooked specimens.

CHRYSANTHEMUMS, done blooming, may be removed to a frame or the open ground, where they may be protected by a covering of leaves to prevent the frost from breaking the pots.

JAPAN LILIES may be potted now, and placed in a cold frame and covered with leaves till February or March.

PELARGONIUMS will now begin to make their growth; keep them rather dry, and train out the shoots that they may make bushy specimens.

OXALISES, done flowering, may be placed away on a shelf under the stage, and those coming into bloom, take their places.

VERBENAS will soon be in bloom; repot all that require it; train up to neat stakes.

CINERARIAS must have good attention. See that the aphids do not attack them. Repot if necessary.

CALLAS should now be shifted into larger pots.

GLADIOLUSES may still be potted if not already done.

NEMOPHILAS should be shifted into larger pots.

ROSES, taken up out of the ground in September or October, should now be pruned and brought into the house. Syringe morning and evening till they are well broken into leaf.

HEATHS should be kept in the coolest part of the house: water sparingly and syringe occasionally.

PANSIES in pots will need a shift the last of the month.

MONTHLY CARNATIONS and PINKS should be shifted before the roots become matted around the pots.

AZALEAS will still require to be rather sparingly watered, except such as may be placed in a warmer part of the house to bloom.

HELIOTROPES, in small pots, may be shifted into a larger size.

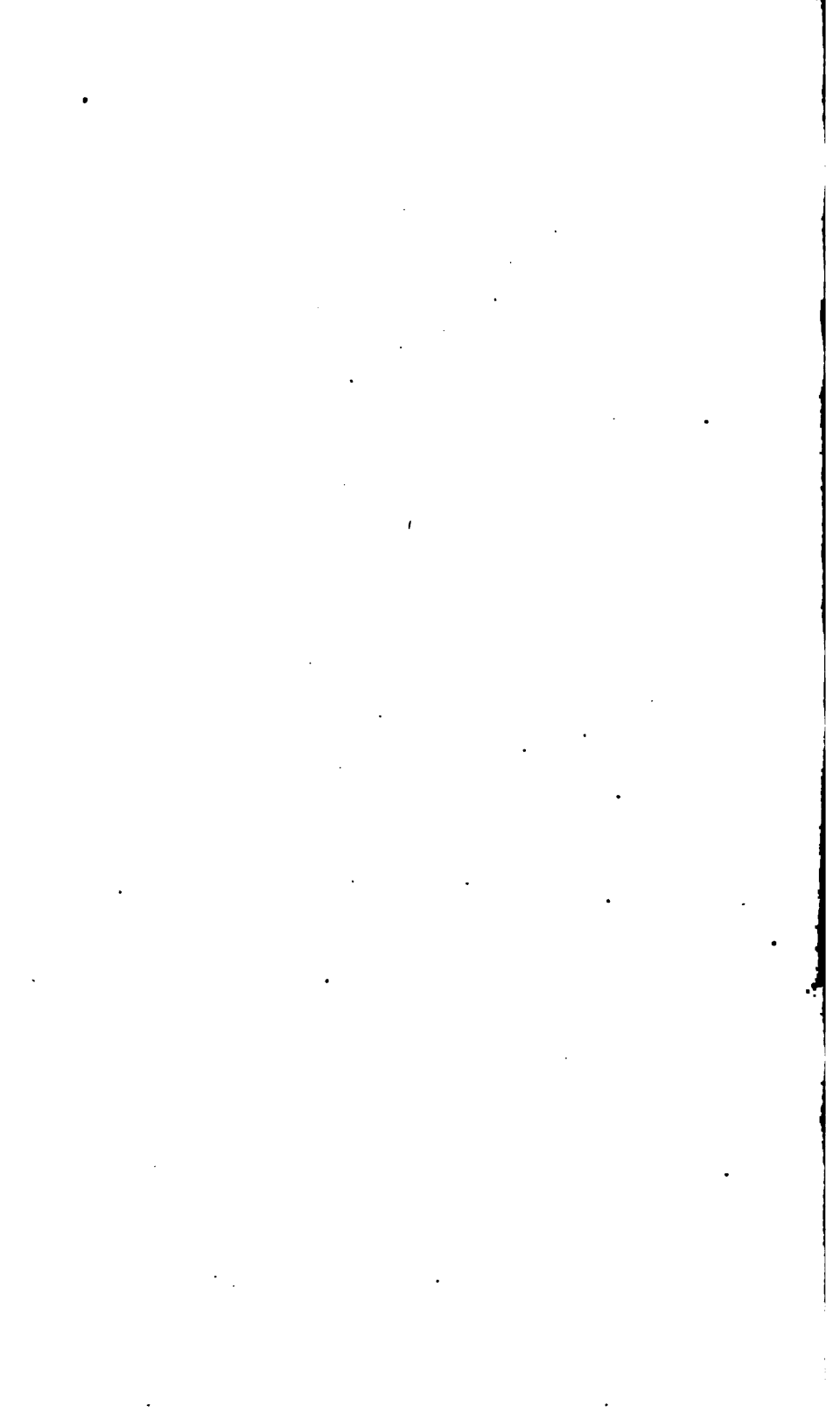
MAURANDIAS, now shifted, will soon begin to grow, and will make fine flowering plants.

TEN-WEEK STOCKS should now be shifted into larger pots.

GLOXINIAS may be brought into the warmest part of the house the last of the month. They will make early flowering plants.

All kinds of greenhouse plants which require it should now be repotted.









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